

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY	:	
	:	
Approval of the Energy Efficiency and	:	Docket No. 21-_____
Demand-Response Plan Pursuant to Section 8-103B	:	
of the Public Utilities Act.	:	
	:	

Direct Testimony of
MARION LUNN
Manager, Energy Efficiency Planning & Measurement
Commonwealth Edison Company
March 1, 2021

TABLE OF CONTENTS

I.	INTRODUCTION AND PURPOSE	1
A.	Identification of Witness	1
B.	Purposes of Testimony	1
C.	Summary of Conclusions	2
D.	Background and Experience	3
E.	Identification of Exhibits	4
II.	PLAN 6 REGULATORY FRAMEWORK: STATUTORY FILING REQUIREMENTS, OTHER STATUTORY PROVISIONS, STAKEHOLDER STIPULATION, AND COMMISSION-APPROVED POLICIES	5
A.	Statutory Filing Requirements	5
B.	Other Statutory Provisions	6
C.	Settlement Stipulation	8
D.	Commission Approved Manuals	10
III.	STATUTORY GOALS	13
IV.	STATUTORY BUDGETS	19
A.	Budget Calculation Definition	19
B.	Plan 6 Budget Calculation	20
V.	PLANNING PROCESS	21
A.	Internal Process	21
1.	Measure Analysis	22
2.	Program Analysis	30
3.	Portfolio Analysis	33
C.	External Process	35
VI.	PLAN 6 PORTFOLIO	37
A.	Programs	38
B.	Portfolio-Level Activities	46
C.	Budgets and Goals	49
D.	Cost Effectiveness and Weighted Average Measure Life (“WAML”)	53
VII.	EVALUATION	56
VIII.	RISKS & RISK MANAGEMENT	62
IX.	RECOVERY OF ENERGY EFFICIENCY COSTS	63
X.	CONCLUSION	64

I. INTRODUCTION AND PURPOSE

A. Identification of Witness

Q. Please state your name and business address.

A. Marion Lunn, Commonwealth Edison Company (“ComEd”), 2011 Swift Drive, Oak Brook, Illinois 60523.

Q. By whom are you employed and in what capacity?

A. I am employed by ComEd as Manager, Energy Efficiency Planning and Measurement.

B. Purposes of Testimony

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to describe ComEd’s proposed Energy Efficiency (“EE”) Plan 6 (“Plan” or “Plan 6”, provided as ComEd Ex. 1.01) for January 1, 2022 through December 31, 2025 (“Plan Period” or “Plan 6 Period”) and accompanying *Commonwealth Edison Company 2022-2025 Energy Efficiency & Demand Response Plan (Plan 6) Stipulation Agreement*, executed on February 26, 2021 (“Stipulation”, provided as ComEd Ex. 1.02)¹, and demonstrate that the Plan, as strengthened by the Stipulation, meets the requirements of Section 8-103B of the Public Utilities Act (the “Act” or “PUA”). 220 ILCS 5/8-103B.

As I will explain in greater detail in my testimony, Plan 6 and the Stipulation synergistically create the most expansive and equitable EE portfolio to be offered to

¹ In addition to ComEd, the signatories to the Stipulation are Illinois Commerce Commission (“Staff”), the Citizens Utility Board (“CUB”), Environmental Law and Policy Center (“ELPC”), the Natural Resources Defense Council (“NRDC”), the People of the State of Illinois, by Kwame Raoul, Attorney General (“Illinois AG”), the City of Chicago, Community Organizing and Family Issues (“COFI”), by its attorney, National Consumer Law Center (“NCLC”), ACES 4 Youth (“ACES”), the Green Power Alliance (“GPA”), and People for Community Recovery (“PCR”), collectively with ComEd, the “Parties”).

ComEd’s customers in the State’s nearly 15-year history of planning and implementing electric EE programs. While ComEd will continue to offer its popular and well-subscribed residential and business EE offerings over the 4-year Plan Period, the Plan also introduces new and innovative programs, and dedicates the largest budget to assisting ComEd’s most vulnerable customers since the EE portfolio’s inception – on average \$85.6 million per year to the income eligible (“IE”) segment, which is a more than 240% increase over the statutory minimum requirement. This commitment – coupled with the Stipulation’s new Market Development Initiative (“MDI”) targeted at elevating diverse supplier participation in the portfolio – are intended to equitably deliver EE-related energy savings, customer assistance and economic stimulus throughout the ComEd service territory.

C. Summary of Conclusions

Q. Please summarize the conclusions of your direct testimony.

A. ComEd’s proposed Plan 6, and the accompanying Stipulation, meet the applicable requirements of Section 8-103B. In the areas of IE and equity, moreover, Plan 6 and the Stipulation introduce creative new initiatives and robust spending commitments that go far beyond the minimum requirements of the statute or any prior ComEd EE offerings.

Among its core components, Plan 6 contains an EE portfolio designed to achieve the statutory energy savings goals within the statutorily-set budgets set forth in the Act in a cost-effective manner. Like previous ComEd EE plans, the Plan offers a diverse cross section of opportunities for ComEd customers of all eligible rate classes to participate in the EE programs and share in their benefits, with a dedicated focus on program elements for IE customers. In addition, the Plan and the Stipulation collectively outline ComEd’s commitments to enhanced reporting and the new MDI, which targets elevating diverse

supplier participation in the portfolio. Finally, the proposals for portfolio implementation and evaluation meet the requirements of Section 8-103B.

Therefore, the Illinois Commerce Commission (“ICC” or “Commission”) should approve all elements of Plan 6, including but not limited to the following:

- Cumulative persisting annual savings (“CPAS”) goals for each of the four calendar years comprising this Plan. Based on ComEd’s preliminary calculations,² the initial CPAS goals for CY2022, CY2023, CY2024, and CY2025 are 10,205,451 megawatt-hours (“MWh”), 11,218,205 MWh, 12,230,960 MWh, and 13,243,715 MWh, respectively;
- Budgets for CY2022, CY2023, CY2024, and CY2025, which ComEd proposes be approved now for the entire 4-year Plan Period. For each year, ComEd has calculated an initial budget of \$376.4 million;³ and
- Programs and program elements designed to achieve the proposed energy and demand response savings goals and fulfil statutory requirements in accordance with Section 8-103B.

D. Background and Experience

Q. What are your duties and responsibilities in your position as Manager for Energy Efficiency Planning & Measurement?

A. I oversee ComEd’s EE regulatory proceedings and EE activities associated with planning and policy, research and development (“R&D”), market transformation, data, evaluation, and finance. My responsibilities include the following: providing strategic direction on

² Section 8-103B requires that ComEd’s largest customers be excluded from participating in or funding the Plan (“Exempt Group”). Because the final determination of the Exempt Group cannot be made until after December 31, 2021 (*see* 220 ILCS 5/8-103B(l)), ComEd will make a compliance filing with the Commission in February 2022 that identifies the final Plan 6 CPAS, legacy, budget, and applicable annual incremental goal (“AAIG”) values. As a result, the CPAS, legacy, budget, and AAIG values presented in my testimony and the Plan are initial values, subject to change based on the final Exempt Group calculation.

³ Like the CPAS goals, ComEd will also submit the final budgets as part of the February 2022 compliance filing described in footnote 2, *supra*.

64 planning and measurement issues; managing relationships with a diverse network of
65 internal and external stakeholders; and supervising staff and vendors.

66 **Q. Please summarize your educational background and professional experience.**

67 A. I hold a Master of Public Administration, with a focus on environmental science and policy,
68 from Columbia University, and a Bachelor of Arts in international studies from Emory
69 University. Prior to my current role with ComEd, I was a ComEd Manager for Energy
70 Efficiency Programs from July 2017 through April 2019, and oversaw a portfolio of 11 EE
71 program elements, totaling over \$50 million, as well as the On-Bill Financing Program.
72 During this period, I also managed strategy and initiatives for ComEd's Bronzeville
73 Community of the Future program. Before joining ComEd, I was the Deputy Director for
74 Energy & Recycling at the Illinois Department of Commerce & Economic Opportunity
75 ("DCEO" or "Department") from August 2014 through July 2017. Before DCEO, I held
76 positions at the U.S. Department of Energy, the White House Council on Environmental
77 Quality, and the U.S. Department of Housing & Urban Development.

78 **E. Identification of Exhibits**

79 **Q. What exhibits are incorporated into your direct testimony?**

80 A. I am sponsoring, and have attached hereto, the following exhibits:

- 81 • **ComEd Ex. 1.01:** ComEd's 2022–2025 Energy Efficiency and Demand Response
82 Plan, including Appendices A, B, C, and D.
- 83 • **ComEd Ex. 1.02:** Commonwealth Edison Company 2022-2025 Energy Efficiency
84 & Demand Response Plan (Plan 6) Stipulation Agreement and Exhibit A, executed
85 February 26, 2021.
- 86 • **ComEd Ex. 1.03:** Section 8-103B(m) Budget Calculations.
- 87 • **ComEd Ex. 1.04:** 2022 Weighted Average Measure Life (WAML) Calculation.

88 **II. PLAN 6 REGULATORY FRAMEWORK: STATUTORY FILING**
89 **REQUIREMENTS, OTHER STATUTORY PROVISIONS, STAKEHOLDER**
90 **STIPULATION, AND COMMISSION-APPROVED POLICIES**

91 **A. Statutory Filing Requirements**

92 **Q. What are the statutory filing requirements?**

93 **A.** Section 8-103B(f) requires that electric utilities file with the Commission their respective
94 energy efficiency and demand response plans by March 1, 2021. 220 ILCS 5/8-103B(f)(2).
95 The plan must set forth how the utility will meet its energy efficiency and demand response
96 goals for 2022 through 2025. Specifically, the statute requires that the utility:

- 97 • Demonstrate that its proposed energy efficiency measures will
98 achieve the applicable savings requirements, as modified by
99 applicable provisions of Section 8-103B.
- 100 • Present specific proposals to implement new building and appliance
101 standards that have been placed into effect.
- 102 • Demonstrate that its overall portfolio of measures, not including
103 income-eligible programs, is cost-effective using the total resource
104 cost test (or complies with paragraphs (1) through (3) of subsection
105 (f)) and represents a diverse cross-section of opportunities for
106 customers of all rate classes, other than those customers who are
107 exempt from Section 8-103B, to participate in the programs.
108 Individual measures need not be cost effective.
- 109 • Present a third-party energy efficiency implementation program
110 subject to certain statutory requirements. The electric utility shall
111 recover all costs associated with Commission-approved, third-party
112 administered programs regardless of the success of those programs.
- 113 • Implement cost-effective demand-response measures to reduce peak
114 demand by 0.1% over the prior year for eligible retail customers, as
115 defined in Section 16-111.5 of this Act, and for customers that elect
116 hourly service from the utility pursuant to Section 16-107 of this
117 Act, provided those customers have not been declared competitive.
- 118 • Include a proposed or revised cost-recovery tariff mechanism, as
119 provided for under subsection (d) of this Section, to fund the
120 proposed energy efficiency and demand-response measures and to
121 ensure the recovery of the prudently and reasonably incurred costs
122 of Commission-approved programs.
- 123 • Provide for an annual independent evaluation of the performance of
124 the cost effectiveness of the utility's portfolio of measures, as well

as a full review of the multi-year plan results of the broader net program impacts and, to the extent practical, for adjustment of the measures on a going-forward basis as a result of the evaluations. The resources dedicated to evaluation shall not exceed 3% of portfolio resources in any given year.

- Provide for an adjustment to the return on equity (“ROE”) component of the utility’s weighted average cost of capital based on the extent to which ComEd achieves its AAIG. The adjustments to the ROE component described will be applied through a separate tariff mechanism.
- Submit energy savings data to the independent evaluator no later than 30 days after the close of the calendar year and adhere to any other requirements, including the submission of required filings to the Commission.

220 ILCS 5/8-103B(g).

My direct testimony demonstrates that ComEd’s Plan satisfies all of these statutory requirements.

B. Other Statutory Provisions

Q. Are there other statutory requirements and provisions that apply to the EE portfolio?

A. Yes. Section 8-103B of the Act includes several key statutory requirements, which are fulfilled by Plan 6, including:

- **IE Customers:** Section 8-103B requires ComEd to allocate a minimum of \$25 million to low-income customers annually, which ComEd refers to as “IE customers”. As prescribed in the statute, these are customers whose household income is at or below 80% of the area median income (“AMI”). Measures implemented under this requirement need not be cost-effective under the Total Resource Cost (“TRC”) test. Section 8-103B(c) also requires ComEd to establish reporting processes that demonstrate progress toward the IE spend and goal, and to convene an IE advisory committee to provide input into the design, delivery, and evaluation of IE programs.
- **Public Sector Customers:** Section 8-103B prescribes that a minimum of 10% of the annual EE funding level shall be used to procure cost-effective EE measures from local government, municipal corporations, school districts, public housing, and community college districts. Public housing must be funded at a minimum percentage that is equal to public housings’ share of total public building energy consumption. 220 ILCS 5/8-103B(c).

- 161 • **Voltage Optimization:** Section 8-103B(b-20) allows ComEd to implement a
162 Voltage Optimization (“VO”) program where the energy savings associated with
163 VO will count towards ComEd’s CPAS goals. Costs incurred to implement VO
164 are recovered under ComEd’s distribution rates and are not included within the EE
165 budget or recovered through ComEd’s related cost-recovery mechanism, Rider
166 EEPP – Energy Efficiency Pricing and Performance (“Rider EEPP”). The VO
167 program, which optimizes ComEd equipment, is intended to reduce end-use
168 customer energy consumption and peak demand while also reducing utility
169 distribution system energy losses.
- 170 • **Third-Party:** Section 8-103B(g)(4) requires that ComEd budget \$25 million
171 annually for programs solicited from, and implemented by, one or more third
172 parties. Section 8-103B also directs the utility to retain an independent consultant
173 to score and rank RFP submissions based on cost and lifetime kilowatt-hours
174 (“kWh”) savings. This independent third-party administrator will also assemble
175 the portfolio of third-party programs. *See* 220 ILCS 5/8-103B(g)(4).
- 176 • **Research & Development:** Section 8-103B recognizes the important role that
177 emerging technologies, R&D, and the pilot deployment of new equipment and
178 measures and delivery mechanisms play towards achieving future-year CPAS
179 goals, and sets the R&D budget at up to 6% of the overall portfolio budget. *See*
180 220 ILCS 5/8-103B(h).
- 181 • **Non-Electric Energy Savings:** Section 8-103B(b-25) allows ComEd to claim
182 non-electricity energy savings of up to 10% of each year’s AAIG. The non-
183 electricity savings for IE programs must be converted to kWh first.
- 184 • **Performance Adjustment:** Section 8-103B includes a performance mechanism
185 that increases or decreases the ROE component of ComEd’s weighted average cost
186 of capital depending on the extent to which we exceed or fall short of the AAIG for
187 a given year. The AAIG is a different measurement than CPAS, and is defined by
188 statute as “the difference between the cumulative persisting annual savings goal for
189 the calendar year that is the subject of the independent evaluator’s determination
190 and the cumulative persisting annual savings goal for the immediately preceding
191 calendar year.” 220 ILCS 5/8- 103B(g)(7.5). In other words, the AAIG measures
192 the amount of incremental first-year energy savings that ComEd achieved in an
193 individual year.

194 My direct testimony demonstrates that ComEd’s Plan satisfies these additional
195 statutory requirements and provisions.

196 **C. Settlement Stipulation**

197 **Q. Please describe the Stipulation.**

198 **A.** Like Plan 5 and those before it, the SAG and its stakeholder participants have been crucial
199 in the development of Plan 6. Consensus-building first began through the SAG process,
200 during which positions, challenges, and opportunities were presented and discussed by the
201 utilities and the stakeholders. SAG members also offered new program ideas and provided
202 ComEd with the opportunity to preview Plan 6 and solicit stakeholder feedback.

203 Following SAG discussions, ComEd engaged in extensive negotiations with
204 several stakeholders in an effort to reach agreement regarding Plan 6. Over the past several
205 months, ComEd and the negotiating stakeholders discussed the key components of the
206 Plan, culminating in the Stipulation executed by the Parties. As noted in the Stipulation,
207 the Parties agree that the Plan satisfies the requirements of Section 8-103B of the Act, and
208 urge the Commission to approve the Plan and Stipulation. Key aspects of the Stipulation
209 include:

- 210 • **Achieving Plan 6 Energy Savings Goals within Budget:** The Parties agree that
211 Plan 6 is designed to achieve Section 8-103B of the PUA's applicable statutory
212 savings goals within the budgets established by Section 8-103B(m) for the 4-year
213 Plan Period.
- 214 • **Offering a Diverse Portfolio of Programs for All Non-Exempt Customers:**
215 ComEd's portfolio serves four primary customer groups: residential customers, IE
216 customers, business customers, and public sector customers. Residential
217 customers, including IE customers, will be offered a suite of program elements that
218 provide opportunities for them to participate in the portfolio (e.g., Retail/Online
219 discounts, Single-Family Upgrades). ComEd will also offer a variety of
220 opportunities to participate in the portfolio for Commercial and Industrial ("C&I")
221 customers, which include businesses and public sector customers (e.g., Small
222 Business Incentives).
- 223 • **Maximizing IE Program Spend:** While the law requires that a minimum of \$25
224 million per year be allocated towards IE programs, in Plan 6, ComEd has dedicated
225 an average of \$85.6 million per year to this customer segment, of which \$77 million
226 will be spent on IE programs, public housing, and R&D spend. Within the \$77
227 million, ComEd will spend an average of \$44 million per year on IE Single-Family

and Multifamily Upgrades (ComEd's whole-building retrofit programs), excluding allocated overhead; and a minimum of \$25 million will go to IE Multifamily Upgrades specifically. In addition, \$8.6 million has been budgeted for portfolio-level activities.

- **Enhancing Program Implementation:** The Stipulation also optimizes many IE program design features and health and safety provisions, including a strengthening of the connection between EE IE programs and financial assistance programs, and establishes various procedural and operational terms designed to improve the Income Qualified North Committee.
- **Increasing Coordination with Gas Utilities:** ComEd has committed to make best efforts to reach agreement with the gas utilities on joint or coordinated delivery of its IE Single-Family and Multifamily Upgrades programs and investment in building envelope improvements in non-IE homes. If these efforts do not succeed, ComEd also agreed, as a backstop, to purchase kWh from the gas utilities for relevant offerings they may have and sell therms to the gas utilities for ComEd's relevant offerings
- **Streamlining Third-Party Programs:** The Plan 6 Third-Party solicitation will focus on Retro-Commissioning and Industrial Systems (under the Business & Public Sector Targeted Systems ("Targeted Systems") offering) and the delivery of up to \$5 million of innovative and non-duplicative approaches to IE customers. Other new, innovative ideas can continue to be submitted for consideration through ComEd's existing R&D submission process.
- **Expanding Supplier Diversity:** Building on ComEd EE's prior diversity initiatives, Plan 6 includes a new MDI, which is targeted at further diversifying the suppliers supporting the portfolio. ComEd will dedicate on average \$4 million annually to the MDI.
- **Increasing Reporting:** Beginning in 2022, ComEd will significantly expand its reporting metrics on a range of topics, including but not limited to: IE Multifamily, health and safety, equity/affordability, and supplier diversity. ComEd agrees to support the inclusion of additional reporting metrics or topics in an updated version of the Illinois Energy Efficiency Policy Manual ("Policy Manual").

Overall, stakeholders have been a tremendous resource for ComEd as it has executed its EE portfolio, by strengthening the portfolio's programs and expanding its reach and equitable provisions. ComEd is grateful for their continued engagement, input, and support.

Q. **Is the Stipulation reflected in Plan 6?**

A. Yes. Plan 6 has incorporated the key features of the Stipulation that I previously explained.

D. Commission Approved Manuals

Q. Can you describe the Energy Efficiency Policy Manual that has been approved by the Commission?

A. Yes. Following the Commission's directive in the Plan 3 docket, the utilities and stakeholders undertook the development of an energy efficiency policy manual through the SAG process. See, e.g., ICC Docket No. 13-0495. The parties' efforts culminated in the Policy Manual, which was approved by the Commission in ICC Docket No. 15-0487. See The People of the State of Illinois, ex rel. Lisa Madigan, Attorney General of the State of Illinois, ICC Docket No. 15-0487, Final Order (Dec. 16, 2015), App. Subsequent updates to this document were contemplated through an SAG process that culminated in Policy Manual Version 2.0, which was approved by the Commission in ICC Docket No. 19-0983. Plan 6 will be subject to the Policy Manual Version 2.0's guiding principles for procurement, oversight, evaluation, and operation of energy efficiency portfolios implemented in the State of Illinois as authorized under applicable law.

Q. Can you identify some of the key features of the Policy Manual Version 2.0?

A. Yes. The Policy Manual Version 2.0 covers numerous components of energy efficiency planning, implementation, and evaluation, including, but not limited to, the role of the SAG, program and portfolio planning, portfolio cost categories, program administration and reporting, evaluation policies, and the TRC test. In sum, the Policy Manual Version 2.0 has standardized many of these items across the State for the electric and gas utilities.

285 Q. **Has the Commission approved any other manuals that govern the implementation of**
286 **energy efficiency plans in Illinois?**

287 A. Yes. In the Commission orders approving the electric utilities' second Plans and the gas
288 utilities' first Plans,⁴ the Commission directed the utilities to work with one another, the
289 Department, and the SAG to develop a statewide technical reference manual. As
290 summarized in the resulting IL-TRM, its purposes are as follows:

291 The purpose of the Illinois Statewide Technical Reference Manual (TRM
292 or IL-TRM) is to provide a transparent and consistent basis for calculating
293 energy kWh and natural gas therms) and capacity (electric kilowatts (kW))
294 savings generated by the State of Illinois' energy efficiency programs,
295 which are administered by the state's largest electric and gas Utilities
296 (collectively, Program Administrators or the Utilities).

297 The TRM is a technical document that is filed with the Illinois Commerce
298 Commission (Commission or ICC) and is intended to fulfill a series of
299 objectives, including:

- 300 • "Serve as a common reference document for all ... stakeholders,
301 [Program Administrators], and the Commission, so as to provide
302 transparency to all parties regarding savings assumptions and
303 calculations and the underlying sources of those assumptions
304 and calculations.
- 305 • Support the calculation of the Illinois Total Resource Cost test
306 ("TRC"), as well as other cost-benefit tests in support of
307 program design, evaluation and regulatory compliance. Actual
308 cost-benefit calculations and the calculation of avoided costs
309 will not be part of this TRM.
- 310 • Identify gaps in robust, primary data for Illinois, that can be
311 addressed via evaluation efforts and/or other targeted end-use
312 studies.
- 313 • ...[Contain] a process for periodically updating and maintaining
314 records, and preserve a clear record of what deemed parameters
315 are/were in effect at what times to facilitate evaluation and data
316 accuracy reviews.

⁴ Nicor Gas Co., ICC Docket No. 10-0562, Final Order (May 24, 2011) at 30; North Shore Gas Co. and Peoples Gas Co., ICC Docket No. 10-0564, Final Order (May 24, 2011) at 76; Ameren, ICC Docket No. 10-0568, Final Order (Dec. 21, 2010) at 70; Commonwealth Edison Co., ICC Docket No. 10-0570, Final Order (Dec. 21, 2010) at 59-60.

- ...[S]upport coincident peak capacity (for electric) savings estimates and calculations for electric utilities in a manner consistent with the methodologies employed by the utility's Regional Transmission Organization ("RTO"), as well as those necessary for statewide Illinois tracking of coincident peak capacity impacts."

See Illinois Statewide Technical Reference Manual Version 9.0, vol. 1 at Section 1 (footnotes omitted)).⁵

The collaboration was intended to ensure that a consistent format was developed for the IL-TRM, and, on January 9, 2013, the Commission approved the first version of the IL-TRM. See *Ill. Commerce Comm'n vs. Ameren et al.*, ICC Docket No. 12-0528, Final Order (Jan. 9, 2013). Since that time, the IL-TRM has been updated and approved by the Commission on an annual basis.

To ensure the consistent application of IL-TRM policies, SAG participants also developed a TRM Policy Document ("Policy Document") that was approved by the Commission in ICC Docket No. 13-0077. See *Ill. Commerce Comm'n vs. Ameren et al.*, ICC Docket No. 13-0077, Final Order (March 27, 2013) at 6. The Policy Document establishes policies that pertain to (1) the applicability of the IL-TRM in planning, implementing, and evaluating energy efficiency measures; and (2) the process for annually updating the IL-TRM, including: (i) identification of roles and responsibilities for stakeholders in the IL-TRM Update Process; (ii) requirements surrounding the IL-TRM Administrator; and (iii) a timeline for updating the IL-TRM. The Commission approved the most recent update of the IL-TRM Policy Document (version 3.0; effective January 1, 2020) in ICC Docket 19-0983.

⁵ The Commission approved Version 9 of the IL-TRM on December 2, 2020. *Illinois Commerce Comm'n vs. Ameren et al.*, ICC Docket No. 20-0741, Final Order (December 2, 2020).

III. STATUTORY GOALS

Q. Can you describe the energy savings goals applicable to ComEd during the Plan 6 Period?

A. Yes. The energy savings that count toward the goals applicable to ComEd under Section 8-103B are measured cumulatively. Under Section 8-103B, ComEd's annual energy savings goals are based on CPAS, which calculates the total electric energy savings achieved in a given year from measures installed in that year and in previous years, but no earlier than January 1, 2012, that are still operational and providing savings in that year (because the measures have not yet reached the end of their useful lives). In other words, the CPAS measurement takes into account how long savings from an EE measure persist, giving more "value" to longer life measures.

Q. What are the statutory energy efficiency and demand response goals applicable to ComEd during the period covered by Plan 6?

A. From January 1, 2022 through December 31, 2025, which is the relevant time period for Plan 6, ComEd is required to achieve the following CPAS goals:

- 13.1% CPAS for the year ending December 31, 2022;
- 14.2% CPAS for the year ending December 31, 2023;
- 15.7% CPAS for the year ending December 31, 2024; and
- 17% CPAS for the year ending December 31, 2025.

220 ILCS 5/8-103B(b-5).

Q. Are there any adjustments to the CPAS goals that are required?

A. Yes. Section 8-103B exempts ComEd's largest customers from the funding of, and participation in, the Plan. The exclusion is explicitly denoted within the statute, and

364 provides that any retail customer account that had a 30-minute electric demand greater than
365 10 megawatt (“MW”) at any time during the 12 consecutive monthly billing periods prior
366 to the start of the first year of each multi-year plan is automatically exempted from
367 providing funding for, or participating in, programs under Section 8-103B (“Exempt” or
368 the “Exempt Group”). *See* 220 ILCS 5/8-103B(*l*). For Plan 6, the period in question will
369 be the 12 consecutive monthly billing periods preceding Plan 6’s January 1, 2022 start date
370 – i.e., January 2021 through December 2021 monthly billing periods. This exemption is
371 mandatory, and the Act does not contain an opt-in provision.

372 In order to determine the MWh baseline required for the CPAS goals calculation,
373 ComEd must first subtract the Exempt Group load from the baseline to determine the
374 adjusted baseline, which is used to set the goal. The adjusted baseline is then multiplied
375 by the CPAS target (*e.g.*, 13.1% for 2022) to determine the CPAS MWh target for each
376 year of the Plan.

377 **Q. How is ComEd addressing the fact that the Exempt Group calculation, which relies**
378 **on the 12 consecutive monthly billing periods preceding the start of Plan 6, cannot be**
379 **completed until after December 31, 2021?**

380 **A.** For purposes of the Plan filing and my testimony, ComEd has calculated the average annual
381 energy usage for the Exempt Group, using the 2017-2019 period as a proxy. The Exempt
382 Group’s average annual usage over this period was 10,095,797 MWh. See Table 1.

Table 1: Exempt Group Usage (2017-2019)

	2017	2018	2019	Total
Exempt Customer Usage (kWh)	9,801,540,420	10,296,068,733	10,189,780,771	30,287,389,924

	kWh	MWh
Exempt Customer Average Annual Usage	10,095,796,641	10,095,797

Importantly, however, because the Exempt Group calculation must be based on the 12 months of usage prior to the start date of the Plan on January 1, 2022, ComEd will perform the final Exempt Group calculations in early 2022 when the actual 2021 calendar year data is available. ComEd will file a compliance filing in February 2022 that identifies the final CPAS goal values for each calendar year of Plan 6. Moreover, this compliance filing will also identify the final values for the legacy savings, budget, and AAIG for each calendar year because those values also rely on the Exempt Group calculation. As a result, the values for CPAS goals, legacy savings, annual budgets, and AAIGs that are presented in my testimony and Plan 6 are initial values that are subject to change.

Q. How does Plan 6 address any persisting savings for measures installed prior to Plan 6 that will still provide savings during one or more years of the Plan 6 Period?

A. With respect to the more recently installed measures under Plan 5, the independent evaluator's determinations of the CPAS values associated with measures installed under Plan 5 will be applied towards the CPAS goals for a given year of the Plan 6 Period, as applicable. In instances where the independent evaluator's determinations of the CPAS values associated with measures installed under Plan 5 are not yet available, specifically

for 2020 and 2021, ComEd estimated persisting savings from 2020 measures based on 2020 ex-ante first-year savings from its data tracking system and estimated persisting savings from 2021 measures based on its 2021 first-year savings forecast. Savings from 2020 and 2021 measures expiring in future years were estimated using projected measure mix assumptions and rate of expiration for applicable measures from the independent evaluator's most recently available CPAS values.

For those measures installed before Plan 5 under the prior EE framework of Section 8-103 of the Act, the statute "deems" the amount of CPAS attributable to measures previously implemented during the period 2012 to 2017. Specifically, the legislation states that ComEd:

shall be deemed to have achieved a cumulative persisting annual savings of 6.6% from energy efficiency measures and programs implemented during the period beginning January 1, 2012 and ending December 31, 2017, which percent is based on the deemed average weather normalizing sales of electric power and energy during calendar years 2014, 2015, and 2016 of 88,000,000 MWhs. For the purposes of this subsection (b) and subsection (b-5), the 88,000,000 MWhs of deemed electric power and energy sales shall be reduced by the number of MWhs equal to the sum of the annual consumption of customers that are exempt...

220 ILCS 5/8-103B(b).

ComEd is therefore allowed to count towards its CPAS goals a certain percentage of deemed CPAS each year that are attributable to measures installed prior to January 1, 2018 (but after January 1, 2012) – i.e., installed under the prior Section 8-103 framework (commonly referred to as "legacy savings") – that are still providing savings in the applicable year. For this Plan, ComEd can apply the following legacy savings amounts: 3.5% to CY2022, 3.1% to CY2023, 2.8% to CY2024, and 2.5% to CY2025. 220 ILCS 5/8-103B(b)(1)-(4). The legacy savings factor continues through CY2030, where 1.5% of legacy savings can be applied to that Calendar Year. 220 ILCS 5/8-103B(b)(13). The

429 numbers decrease over time to reflect that EE measures have useful lives and the savings
430 decrease as a measure's useful life comes to an end. Table 2 shows the legacy savings
431 percentages and MWh amounts that ComEd will count towards its CPAS goals in each of
432 the four years of this Plan. The legacy savings can then be subtracted from the CPAS to
433 show the savings that need to be achieved through this Plan's activities.

434 **Q. In sum, what are the initial annual statutory CPAS goals and legacy savings for Plan**
435 **6?**

436 **A.** Table 2 shows several key values for Plan 6. First, the table presents the initial statutory
437 CPAS goal for each calendar year ("Statutory CPAS Goal"), including both the required
438 percentage reduction and the corresponding MWh of savings. To determine the CPAS
439 MWh figure, ComEd multiplied the adjusted MWh baseline times the statutorily-mandated
440 percentage reduction, which results in the CPAS goal for each year. Second, Table 2
441 presents the initial legacy savings value for each calendar year, including both the
442 percentage CPAS savings deemed to have been achieved for each calendar year and the
443 corresponding MWh of savings. To determine the legacy savings MWh figure, ComEd
444 multiplied the adjusted MWh baseline by the statutory legacy savings percentage value.
445 Finally, Table 2 presents the net MWh savings that ComEd must achieve ("CPAS to
446 Achieve") after crediting the legacy savings to the statutory CPAS goal.

448

Table 2: EE CPAS Goals and Projected CPAS Achievement, By Year

	2022	2023	2024	2025
Statutory CPAS Goal (MWh)	10,205,451	11,218,205	12,230,960	13,243,715
<i>Legacy Savings (MWh)</i>	2,726,647	2,415,030	2,181,318	1,947,605
<i>CPAS to Achieve (MWh)</i>	7,478,804	8,803,175	10,049,642	11,296,109
Projected Portfolio CPAS (MWh)	10,461,665	11,553,156	12,573,538	13,586,888
<i>Legacy Savings (MWh)</i>	2,726,647	2,415,030	2,181,318	1,947,605
<i>Plan 5 Persisting</i>	6,237,317	6,119,102	5,828,475	5,538,581
<i>Plan 6 Persisting</i>	1,497,701	3,019,024	4,563,746	6,100,701
Projected % of Goal Achieved	103%	103%	103%	103%
Projected CPAS MWh Surplus (Shortfall)	256,214	334,950	342,578	343,173

449 Q. **What is AAIG and how is it calculated?**

450 A. Section 8-103B(g)(7) specifies the adjustment that must be made to the ROE component
451 of ComEd's EE Formula Rate based on the extent to which ComEd achieves a given year's
452 AAIG. Section 8-103B(g)(7.5) defines the AAIG as "the difference between the [CPAS]
453 goal for the calendar year that is the subject of the independent evaluator's determination
454 and the [CPAS] goal for the immediately preceding calendar year." 220 ILCS 5/8-
455 103B(g)(7.5). Section 8-103(g)(7.5) further states that "a utility must first replace energy
456 savings from measures that have reached the end of their measure lives and would
457 otherwise have to be replaced to meet the applicable savings goals identified in subsection
458 (b-5) or (b-15) of this Section before any progress towards achievement of its [AAIG] may
459 be counted." Id. In other words, to achieve the AAIG in a given year, ComEd must first
460 replace any savings that expired in the previous year due to the end of a measure's life, and
461 then achieve the incremental difference between the current year's CPAS goal and the prior
462 year's CPAS goal.

Q. **What are the initial AAIGs for Plan 6?**

A. Table 3 presents the initial AAIG for the Plan Period, by year. The final AAIG, per year, will be updated in a February 2022 compliance filing based on the final Exempt Customer data.

Table 3: Initial AAIG, By Year

	2022	2023	2024	2025
Applicable Annual Incremental Goal	930,563	1,012,755	1,012,755	1,012,755

Q. **What are the annual demand response goals for Plan 6?**

A. Section 8-103B requires ComEd to reduce peak demand by 0.1% over the prior year for eligible retail customers and customers that elect hourly service. 220 ILCS 5/8-103B(g)(4.5). Table 4 presents the annual demand response goal for each year of Plan 6.

Table 4: Demand Response Goal, By Year

	2022	2023	2024	2025
Annual Demand Response Goal (MW)	7.17	7.44	7.42	7.43

IV. STATUTORY BUDGETS

A. Budget Calculation Definition

Q. **Are there any guidelines regarding the amount that ComEd can spend on its EE portfolio during a particular year of Plan 6?**

A. Yes. Section 8-103B(m) of the Act states as follows:

(m) Notwithstanding the requirements of this Section, as part of a proceeding to approve a multi-year plan under subsections (f) and (g) of this Section, the Commission shall reduce the amount of energy efficiency measures implemented for any single year, and whose costs are recovered under subsection (d) of this Section, by an amount necessary to limit the

estimated average net increase due to the cost of the measures to no more than

(1) 3.5% for the each of the 4 years beginning January 1, 2018,

(2) 3.75% for each of the 4 years beginning January 1, 2022,

and

(3) 4% for each of the 5 years beginning January 1, 2026,

of the average amount paid per kilowatthour by residential eligible retail customers during calendar year 2015. To determine the total amount that may be spent by an electric utility in any single year, the applicable percentage of the average amount paid per kilowatthour shall be multiplied by the total amount of energy delivered by such electric utility in the calendar year 2015, adjusted to reflect the proportion of the utility's load attributable to customers who are exempt from subsections (a) through (j) of this Section under subsection (l) of this Section. For purposes of this subsection (m), the amount paid per kilowatthour includes, without limitation, estimated amounts paid for supply, transmission, distribution, surcharges, and add-on taxes. For purposes of this Section, "eligible retail customers" shall have the meaning set forth in Section 16-111.5 of this Act. Once the Commission has approved a plan under subsections (f) and (g) of this Section, no subsequent rate impact determinations shall be made.

220 ILCS 5/8-103B(m).

B. Plan 6 Budget Calculation

Q. Based on these statutory provisions, what is the annual budget for each of the years that comprise Plan 6?

A. The average residential eligible retail rate for 2015 was \$0.1294 per kWh. ComEd Ex. 1.03. To determine the annual budget for each of the four years of the Plan, ComEd multiplied the average rate of \$0.1294 per kWh times the adjusted 2015 baseline of 77,574,341 MWh times the rate cap percentage of 3.75%, which resulted in an initial annual budget of \$376,429,489 for each year of Plan 6 ($=\$0.1294/\text{kWh} * 77,574,341 \text{ kWh} * 3.75\%$). ComEd Ex. 1.03. Like the CPAS and AAIG values, ComEd will update the

513 budgets in a February 2022 compliance filing when the final Exempt Group calculation
514 can be performed.

515 Q. **Will all of the costs associated with Plan 6 be subject to this budget?**

516 A. No. Section 8-103B provides that while the energy savings associated with the VO
517 program count towards achievement of the CPAS and AAIG goals, the costs associated
518 with the VO program will be recovered separately through, in ComEd's case, its
519 distribution formula rate, and thus not counted under the budget cap calculation. See 220
520 ILCS 5/8-103B(b-20).

521 V. **PLANNING PROCESS**

522 A. **Internal Process**

523 Q. **What is the internal planning process ComEd undertook to develop Plan 6?**

524 A. Plan 6 is the product of a multi-stage effort to gather and process the information required
525 to determine program and portfolio cost effectiveness as defined by Illinois law. Drawing
526 upon its experience in implementing EE portfolios since 2008, ComEd developed its
527 portfolio by identifying EE measures and programs and relying on the results of the TRC
528 test to determine the cost effectiveness of each measure and program. The portfolio is
529 designed to achieve the statutory CPAS goals while also achieving ComEd's other
530 portfolio objectives. As described below, ComEd's portfolio planning process consisted
531 of three primary stages: (1) measure analysis; (2) program analysis; and (3) portfolio
532 analysis. The TRC test is used at each stage, as described in detail in the Plan.

533 Q. **What are the differences among a measure, a program element, and a program?**

534 A. An EE measure is an individual technology (e.g., light-emitting diode (“LED”)), behavior
535 (e.g., adjusting a thermostat up or down when leaving the house) or service (e.g., an
536 assessment) that reduces the amount of electricity used when installed or performed. An
537 EE program or program element consists of the bundling of one or more EE measures into
538 an entire program concept, which includes program delivery mechanisms, incentive rebate
539 levels, and marketing approaches. The measure is one component of the program element.
540 A program represents a bundle of program elements.

541 **1. Measure Analysis**

542 Q. **How did ComEd analyze the EE measures?**

543 A. ComEd began the measure analysis and selection process by compiling the existing
544 measures offered under the current Plan 5 portfolio and those programs in its R&D
545 pipeline. ComEd then supplemented these initial measures with additional measures that
546 it learned about from other sources, including, but not limited to, the IL-TRM, SAG
547 participants, other Illinois utilities, and programs offered in other jurisdictions.

548 The final list of potential Plan 6 measures compiled for this analysis included nearly
549 700 measures. It is worth noting that some of these measures are variations of basic
550 measures, such as LEDs delivered via different channels (e.g., direct install versus
551 midstream). With respect to commercial measures in particular, ComEd conducted its
552 evaluation using an average building type instead of multiple building types.

553 Q. **Did ComEd’s list of possible Plan 6 measures include all possible EE measures?**

554 A. No. Even though ComEd’s initial list included nearly 700 measures, the list of all possible
555 measures would be several times larger. A list of all possible measures would require that

556 ComEd look at every device or system that uses electricity in every possible building type,
557 with every possible heating and cooling system. It would also entail evaluating measures
558 that are not pertinent or applicable to our service territory. For example, evaporative air
559 conditioning measures are very efficient and useful in the southwest United States, but in
560 Illinois' humid summer environment they are not practical energy saving technologies,
561 except in rare custom applications. I consider the list of measures examined to have been
562 comprehensive and appropriate for ComEd's service territory.

563 Once ComEd developed a list of potential Plan 6 measures, it undertook a measure
564 screening process, the goal of which is to create the building blocks for EE programs.
565 These programs should be designed such that if additional measures are considered
566 important to include, they can easily be screened and incorporated without major program
567 redesign. It is standard practice when conducting a first-stage measure screening to restrict
568 analysis to those measures within a set of common building types as defined in the IL-
569 TRM that could account for the majority of EE potential in a given area. I consider the
570 measures screening by ComEd to have been appropriately tailored to the particular facts
571 and circumstances relevant to ComEd's service territory and eligible customers.

572 **Q. After ComEd compiled its list of measures, did it conduct additional analyses to**
573 **determine which measures should be included in the portfolio?**

574 **A.** Yes. Section 8-103B(g)(3) of the Act requires that the portfolio of EE measures – not
575 including low-income (or, “income-eligible”) programs – be “cost-effective,” which is
576 defined as having satisfied the Illinois TRC test. 220 ILCS 5/8-103B(g)(3); see also 220
577 ILCS 5/8-103B(a). The statute further confirms that “[i]ndividual measures need not be
578 cost effective.” 220 ILCS 5/8-103B(g)(3). The California Energy Commission originally

579 developed the standard TRC test in the 1980s as part of what is called the California
580 Standard Practice Manual and has been incorporated into the National Action Plan for
581 Energy Efficiency. Virtually every jurisdiction uses some form of this test for EE analysis.

582 Illinois defines the TRC test as follows:

583 “Total resource cost test” or “TRC test” means a standard that is met
584 if, for an investment in energy efficiency or demand-response
585 measures, the benefit-cost ratio is greater than one. The benefit-cost
586 ratio is the ratio of the net present value of the total benefits of the
587 program to the net present value of the total costs as calculated over
588 the lifetime of the measures. A total resource cost test compares the
589 sum of avoided electric utility costs, representing the benefits that
590 accrue to the system and the participant in the delivery of those
591 efficiency measures and including avoided costs associated with
592 reduced use of natural gas or other fuels, avoided costs associated
593 with reduced water consumption, and avoided costs associated with
594 reduced operation and maintenance costs, as well as other
595 quantifiable societal benefits, to the sum of all incremental costs of
596 end-use measures that are implemented due to the program
597 (including both utility and participant contributions), plus costs to
598 administer, deliver, and evaluate each demand-side program, to
599 quantify the net savings obtained by substituting the demand-side
600 program for supply resources. In calculating avoided costs of power
601 and energy that an electric utility would otherwise have had to
602 acquire, reasonable estimates shall be included of financial costs
603 likely to be imposed by future regulations and legislation on
604 emissions of greenhouse gases. In discounting future societal costs
605 and benefits for the purpose of calculating net present values, a
606 societal discount rate based on actual, long-term Treasury bond
607 yields should be used. Notwithstanding anything to the contrary,
608 the TRC test shall not include or take into account a calculation of
609 market price suppression effects or demand reduction induced price
610 effects.

611 20 ILCS 3855/1-10.

612 After analyzing the landscape of potential measures, as well as the cost
613 effectiveness of those permutations, ComEd cross-referenced that list of measures against
614 current and past ComEd programs and the recently completed End-Use Baseline Study⁶

⁶ *Commonwealth Edison Baseline Study*, August 14, 2020, available at

and Market Potential Study⁷ to determine feasibility and market readiness for the years of Plan 6. In addition to limiting the final measure list used in developing Plan 6 based on cost effectiveness, we also considered input from stakeholders on program measures and design to optimize Plan 6 with the remaining 600+ measures under consideration.

Q. Please summarize the Illinois TRC test in your own words.

A. In basic terms, the TRC test compares the benefits realized by installing a measure with the costs to install that measure. Benefits are calculated as the product of the measure's estimated energy and peak demand savings and the utility's avoided cost. Costs are equal to the incremental capital, installation, and operation and maintenance ("O&M") costs. The incremental cost is defined as the difference between the cost of the efficiency measure and the cost of the measure that otherwise would have been installed. To illustrate this last concept, consider the following situation: A consumer decides that their existing refrigerator no longer functions properly and that a new refrigerator is needed. The consumer has a number of options for the new refrigerator, including a basic model that meets federal EE standards and a more expensive model that is more energy efficient. The incremental cost is the difference between the basic refrigerator and the higher efficiency model.

https://ilsag.s3.amazonaws.com/ComEd_Baseline_Study_Report_Final_Aug-2020.pdf (last accessed February 25, 2021).

⁷ See Dunskey, *Commonwealth Edison Energy Efficiency Potential Study: A Comprehensive Assessment of 2021-2030 Net Economic Opportunities*, August 2020 ("Market Potential Study"), available at https://ilsag.s3.amazonaws.com/ComEd-2021-2030-Potential-Study-Final-Report-rev1_Aug-2020.pdf (last accessed February 25, 2021), provided as Appendix B to ComEd Ex. 1.01.

As I discuss below, however, before applying the TRC test to EE measures under consideration for inclusion in Plan 6, ComEd first gathered additional data and performed further analyses related to these measures.

Q. Please explain your additional data collection efforts and analyses.

A. ComEd's evaluation of possible Plan 6 measures first focused on measures that are contained within the SAG-vetted and Commission-approved IL-TRM, which provides measure level data used to determine the measure's cost effectiveness including, but not limited to measure life, measure cost, coincidence factor, and calculation of savings

While the IL-TRM provides an extensive starting point for measures, it is by no means comprehensive, particularly where more complex programs, such as Retro-Commissioning, are concerned. For more complicated measures that are not including in the current IL-TRM, ComEd relied on savings algorithms, assumptions, and values provided by the program implementers and independent evaluators.

The cost effectiveness analysis also requires the estimate of the useful life of each measure to account for all of the energy savings realized by implementation of the measure over time. For example, installing an LED generates savings relative to an incandescent bulb for a number of years, depending on how many hours per year, over how many years, the bulb is used.

Finally, the cost-effectiveness analysis requires a discount rate to estimate the present value of the efficiency measure's costs and benefits. The TRC test definition includes the calculation of this discount rate as prescribed by law. See 20 ILCS 3855/1-10.

654 Q. **How did you calculate the energy savings value(s) under the TRC test for potential**
655 **Plan 6 measures?**

656 A. New to Plan 6, ComEd performed its modeling and the cost-effectiveness analysis using
657 Analytica and ProCESS, a visual software environment that specializes in building
658 quantitative decision models. The transition was made from ComEd's prior use of DSMore
659 to increase transparency of cost-effectiveness inputs and for consistency with the ComEd
660 independent evaluator's cost-effectiveness calculation methodology. Analytica was used
661 to produce several cost-effectiveness analyses, including the TRC cost test and the program
662 administrator cost test ("PACT"). Analyses were performed that both included and
663 excluded non-energy impacts ("NEIs"), which are impacts associated with EE activities
664 other than direct energy and demand savings.

665 In addition, to provide greater flexibility and transparency for Plan 6, ComEd
666 transitioned from an hourly average avoided cost to annual average avoided costs, which
667 then applied the energy price to calculate the annual savings for each measure and program.
668 The transition to annual average avoided costs was undertaken to be more consistent with
669 the independent evaluator's existing methodology, as well as the methodologies of the
670 other Illinois utilities' EE portfolios.

671 The avoided costs and other inputs that ComEd used for the analysis were
672 calculated by the ComEd planning team in 2020 and calculated using a variety of sources,
673 as provided in Appendix A to the Plan. See ComEd Ex. 1.01, Appendix A.

Q. **How did you apply the TRC test to the individual measures under consideration for inclusion in Plan 6?**

A. Using the data described above, we calculated the value of the TRC test for each of the measures under consideration. Measures that score a ratio of benefits to costs of 1.0 or greater are considered to pass the TRC test. In general terms, the TRC test compares benefits (*i.e.*, avoided costs * energy and demand savings) and costs (*i.e.*, incremental capital, installation and O&M costs of measures + utility implementation and administrative costs). The formal expression of the Illinois TRC test is as follows:

$$TRC = \frac{\sum_{t=1}^N UAC_t + OQB_t}{(1+d)^{t-1}} \div \frac{\sum_{t=1}^N PRC_t + PCN_t + UIC_t}{(1+d)^{t-1}}$$

Where :

UAC_t = Utility Avoided Cost in year t

OQB_t = Other Quantifiable Societal Benefits in year t

PRC_t = Program Costs in year t

PCN_t = Participant Costs in year t

UIC_t = Utility Increased Supply Costs in year t

d = Discount Rate

The TRC test is often applied to assess the cost effectiveness of individual EE measures as well as EE programs. When the analysis of measures is prepared, we look at a single measure's costs and benefits and do not include variables, such as Program Administrator program costs, because at this stage in the analysis there are no program costs.

Q. **Does your calculation of cost effectiveness incorporate both electricity savings and demand reductions?**

A. Yes, this is very important. Most EE measures not only reduce the total amount of electricity consumed over the course of a year, but also reduce peak demand. Some measures, like a central AC system replacement, have a greater impact on peak demand than installation of a residential LED, because the LED most likely is not on during the summer peak period. When we calculate the cost effectiveness of a measure, we: (i) multiply energy savings by the avoided energy cost, and (ii) multiply peak demand savings by avoided capacity costs, to make sure we accurately capture the measure's full cost effectiveness.

Q. **What were the results of the TRC test on the individual EE measures under consideration for inclusion in the Plan 6 portfolio?**

A. The results of the measure screening are presented in Tables 5 and 6 below. Of the 700 measures that were screened, 466 passed with a benefit-cost ratio of 1.0 or greater. Table 5 shows the number of measures passing the TRC test for each sector. Table 6 provides illustrative examples of the types of measures, by sector, that passed the Illinois TRC test.

Table 5. Screened Measures Passing the TRC Test

Sector	Total No. of Measures Screened	Measures with TRC > 1.0
Res/IE	277	209
Bus/Pub	336	257

Table 6. Types of Screened Measures Passing the TRC Test

Res/IE Measures	Bus/Pub Measures
LEDs – directional & specialty	LEDs – Linear Fluorescent Lamps, Retrofits, Fixtures, Exit Signs
Low-Flow Showerheads and faucet aerators	Linear TLED lamps
New Central AC SEER 15+	Lighting Controls
Advanced Thermostat	Process Equipment
Heat Pumps – Air Source & Ductless	Strategic Energy Management
Behavior	Food Service Equipment
Advanced Power Strips	Refrigeration
Duct Insulation & Sealing	Commissioning
Appliances	Variable Speed Drives and Temperature Control for Chilled Water and Hot Water Loops
Insulation	

2. Program Analysis

Q. Please explain the process of bundling measures into program elements.

A. Once we narrowed the number of measures under consideration for inclusion in Plan 6, we then determined whether any of those individual measures could be “bundled” into a program element. A program element is a general classification that references the types of measures that might be offered within a program targeted at a specific market. For example, ComEd has bundled a variety of commercial lighting, controls, and refrigeration measures into the Incentives program element. The bundling process is used because very few, if any, program elements and programs are designed and implemented to include only one single measure. Rather, we build programs around combinations of measures that might appeal to a given market and that can be delivered using similar channels. The

733 bundling process is also necessary because in subsequent steps, ComEd estimates how
734 many of each measure would or could be adopted by program participants and then sums
735 the energy and demand reduction impacts of these measures.

736 **Q. How did you determine whether a particular program will be cost effective during**
737 **the program analysis stage?**

738 **A.** To determine cost effectiveness at a program level, ComEd conducts the TRC test on the
739 programs (as opposed to the program's measures individually). There are three differences
740 between this program-level screening process and the cost-effectiveness screening process
741 conducted during the measure analysis that I previously described. First, when screening
742 measures, the Program Cost ("PRC") variable (also known as the "program administrator
743 costs") in the Illinois TRC test is set to zero. However, program-level screening requires
744 that the PRC variable equal the cost to implement and administer the program.

745 Second, while the measure screening focused on the cost effectiveness of a single
746 measure, program screening by definition is the cost effectiveness of a bundle of measures
747 as these measures are adopted by program participants. This means that at the program
748 level, ComEd must also project the number of measures that are expected to be adopted as
749 a result of the program.

750 The third difference is directly related to the second. Every customer that receives
751 an incentive for undertaking a specific program-sponsored activity is a participant, but not
752 every participant is motivated to undertake that activity by the program. Some percentage
753 of program participants will be "free riders" – participants that would have undertaken the
754 desired action in the absence of the program. The estimated savings for a program is
755 reduced by the amount of savings attributed to these free riders. At the same time, however,

756 there will be some customers who undertake the action the program is attempting to
757 motivate, but who do not actually take any incentive from the program. These customers
758 are known as “free drivers” and the savings that their actions produce are termed
759 “spillover.” Just as the effects of free riders must be accounted for, so must the effects of
760 free drivers.

761 The net effect of free ridership and spillover is known as the net-to-gross (“NTG”)
762 ratio, which specifically is the ratio of: (1) net program savings calculated as the net of
763 free ridership and spillover and (2) gross program savings, which are equal to the total
764 number of measures installed and their associated savings. The NTG ratio is a number
765 calculated based on post-implementation evaluation of program impacts. Using various
766 evaluation methods dependent on the program type, evaluators attempt to determine which
767 participants are free riders (i.e., would have undertaken a program-sponsored action even
768 without the program) and which non-participants and participants are free drivers (i.e., took
769 action even though they did not avail themselves of the program incentives). Program
770 planners use the results of prior NTG ratio analyses and any available additional
771 information as inputs to program cost-effectiveness calculations.

772 **Q. On what sources did ComEd rely to compile the program cost, participation, and**
773 **NTG ratio data?**

774 **A.** The NTG ratio estimates for continuing programs are generally based on the results of the
775 most recent evaluation reports completed by the independent evaluator. In certain cases,
776 these values were adjusted to reflect likely future market behavior. For continuing
777 programs, cost data was based on the current costs to deliver the programs. These costs
778 were adjusted to reflect potential increases or decreases in cost elements over time.

For new programs, ComEd developed estimates of NTG ratios using proxy values from current programs. Program cost data used for new programs is based on the costs reported by others in the industry implementing similar programs. The data was then modified to reflect adjustments that would be expected in the ComEd service territory. Similarly, the participation data was based on the actual or projected achievements of similar programs. These data were also compared against the market potential study that ComEd conducted in 2020. *See* ComEd Ex. 1.01, Appendix B.

3. Portfolio Analysis

Q. Why are the measures and programs organized into a portfolio during the portfolio analysis stage?

A. In the third, and final, analysis stage, the programs are bundled into the overall portfolio and analyzed for cost effectiveness, which includes the non-program specific, portfolio-level costs in the cost-effectiveness test. At its core, a portfolio allows ComEd to include a mix or balance of EE measures that are designed as a whole to produce a desired result with acceptable risk. ComEd's portfolio is designed to achieve the statutory CPAS goals within the statutory budgets, as well as satisfy other important policy and strategic objectives. The wide selection of measures that makes up the portfolio also creates a broad array of EE opportunities for all eligible customers – i.e., all retail customers except those in the Exempt Group.

Q. What were ComEd's overall objectives in designing its portfolio?

A. Consistent with the statutory framework, ComEd's EE portfolio is designed to achieve the statutory CPAS targets within the statutory budgets, while supporting ComEd's key themes, which include the following:

- Offer a comprehensive portfolio of programs, with a wide range of options that serve all eligible customers;
- Make an unprecedented commitment of funding for IE customers to address the scale and reality of the need in the ComEd service territory -- where more than 40% of residential customers meet the definition of “IE”;
- Address IE customers more holistically by improving the coordination and delivery of EE programs and ComEd’s customer financial assistance programs to IE customers;
- Increase contracting opportunities for diverse business enterprises and improve the diversity and inclusiveness of the ComEd EE Department’s supplier and supplier workforce.
- Increase program participation of non-Exempt large commercial and public sector customers through targeting and development of comprehensive EE projects; and
- Innovate in this Plan and lay the foundation for new approaches and future successes in the next Plan.

Q. Please describe how ComEd designed the final portfolio for Plan 6 to achieve these objectives?

A. It is at this stage – the portfolio analysis and design – that the portfolio is balanced. We start with the program elements that successfully passed the first two stages and develop budget estimates for portfolio-level activities (i.e., evaluation, R&D, education and awareness, and portfolio administration). Then we consider how to satisfy multiple objectives including, but not limited to the objectives I just discussed; cost effectiveness; portfolio reach; IE, Public Sector, and Third-Party carveouts; budget constraints; funding assurance for portfolio-level costs (e.g., evaluation); and for Plan 6, Stipulation requirements. The portfolio is balanced across all of these requirements, scaling programs up or down in size to arrive at a portfolio that would achieve the statutory energy savings goals while also achieving the other objectives of a robust and cost-effective portfolio.

830 **C. External Process**

831 **Q. Did ComEd collaborate with other parties as part of the planning process to develop**
832 **Plan 6?**

833 **A.** Yes. In addition to the internal analyses performed by ComEd, Plan 6 was also developed
834 through a collaborative process that included the participation of the Illinois Energy
835 Efficiency Stakeholder Advisory Group (“SAG”),⁸ and culminated in the Stipulation
836 reached by a diverse group of non-financially interested stakeholders.

837 As it relates to the Plan development, in 2020, SAG meetings were held from March
838 through October to discuss and inform the development of Plan 6. SAG members,
839 including Staff, offered suggestions, new program ideas and provided ComEd with the
840 opportunity to preview Plan 6 and solicit their feedback. Following SAG discussions,
841 ComEd engaged in extensive negotiations with Staff and a diverse group of non-financially
842 interested stakeholders. Formal negotiations between ComEd and these parties has
843 resulted in consensus on the Plan, as memorialized in the executed Stipulation.

844 **Q. Has Nicor Gas and Peoples Gas/North Shore Gas been a part of ComEd’s planning**
845 **process?**

846 **A.** Yes. In addition to the SAG process, which the Northern Illinois gas utilities (Nicor Gas,
847 Peoples Gas, and North Shore Gas) also participated in, ComEd has worked with Nicor
848 Gas and Peoples Gas/North Shore Gas to develop the joint or coordinated electric-gas
849 program elements that are presented in the Plan.

⁸ The SAG was established pursuant to the Commission’s Final Order in ICC Docket No. 07-0540. *Commonwealth Edison Co.*, ICC Docket No. 07-0540, Final Order (Feb. 6, 2008) at 32-33.

ComEd has historically relied upon collaboration with the Northern Illinois gas utilities to deliver portions of its EE portfolio. The sharing of program-level costs enables both the gas and electric EE measures to be installed more cost-effectively. In addition, it provides dual customers a single, more efficient interaction. For Plan 6, ComEd is committed to offering as many EE services jointly or in coordination with the gas utilities as is practical, given legislative and stakeholder commitments, budget limitations, and implementation constraints. Starting early in 2020, ComEd met with the gas utilities to discuss potential Plan 6 joint/coordinated programs and reach agreement on which programs would be offered together and the amounts of their associated budgets and savings targets. Agreements were finalized for many programs, but unfortunately, due to time constraints leading up to the Plan filing, ComEd has not yet been able to reach consensus with the gas utilities on three program elements—IE Single-Family Upgrades, IE Multifamily Upgrades, and building envelope improvements in non-IE homes (currently a gas-only funded program).

As captured in the Stipulation, ComEd is committed to continuing these discussions and making best efforts to reach consensus to offer these three program elements jointly or in coordination with the gas utilities as is practical, given legislative and stakeholder commitments, budget limitations, and implementation constraints. In the event that ComEd and the gas utilities cannot reach an agreement regarding the three program elements, the Stipulation contains a “backstop” provision (applicable so long as the gas utility contains the same provision in its plan and/or stipulation). Specifically, if ComEd and the gas utilities are unable to reach an agreement for joint or coordinated delivery, ComEd has committed to purchase kWh from the gas utilities for relevant offerings they

may have (provided that forecasts are shared with ComEd at least 90 days prior to the start of the program year), and to sell therms to the gas utilities for ComEd's relevant offerings. Additionally, for Joint Single-Family – IE and Multifamily – IE programs, ComEd has committed to ensuring that eligible gas and electric efficiency measures are identified and installed in all homes and buildings treated. In addition, ComEd will make best efforts to reach agreement with the gas utilities to streamline customer experiences and reduce possible customer confusion, including exploring opportunities for joint enrollment forms, and agreeing on a common set of electric and gas measures offered and reporting to SAG. *See Stipulation, ComEd Ex. 1.02.*

ComEd is very appreciative of the time and effort that the Parties to the Stipulation and the gas companies have invested in this process, and ComEd is hopeful that its commitment to reach agreement with the gas utilities will lead to a successful resolution that builds upon the past joint and coordinated program achievements.

VI. PLAN 6 PORTFOLIO

Q. How is Plan 6 structured?

A. Plan 6 demonstrates that it (1) is designed to achieve the statutory CPAS goals in each Calendar Year, (2) is cost-effective under the TRC test, (3) satisfies the budget limits under Section 8-103B(m), (4) meets the filing requirements of subsections (f) and (g) of Section 8-103B, and (5) reflects the Stipulation reached by ComEd and the diverse group of Staff and stakeholders. The key sections of the Plan include the following:

- **Introduction:** Introduces Plan 6 and highlights the Plan's focus on meeting statutory energy savings goals and other key features of the Plan and the Stipulation.

- **Plan Overview:** Presents a summary of the statutory and portfolio frameworks, the energy savings goals and budgets, and the challenges and opportunities associated with Plan 6.
- **ComEd's Planning Process:** Describes the TRC used to evaluate cost effectiveness, and discusses the multi-stage planning effort used by ComEd to design the Plan
- **The ComEd Portfolio:** Describes how the Plan 6 EE programs are organized under the Residential & IE “umbrella” and the Business & Public Sector “umbrella.” This portion of the plan also describes the Multi-Segment sector, which is currently composed only of VO. The forecasted Plan 6 costs, projected CPAS savings, TRC values and measure lives, broken down by program element and year, are provided. This section also provides descriptions of each of the proposed program elements. The section also describes Third-Party programs and cross-cutting activities that are not program specific, but rather impact the entire portfolio, specifically R&D, the new MDI, evaluation, education and awareness, and portfolio administration.
- **Risks and Risk Mitigation:** Discusses potential risks to achieving the Plan 6 statutory goals and budgets, and associated mitigation measures.
- **Cost Recovery:** Explains how costs related to the EE and demand response programs are recovered through Rider EEPP, which was approved by the Commission in ICC Docket No. 17-0287 and is currently in effect.

A. Programs

Q. Can you summarize the EE and demand response programs that ComEd proposes to offer under Plan 6?

A. ComEd's Plan 6 organizes the individual EE measures into an overall portfolio consisting of a variety of program elements. The portfolio is designed to blend the program elements under two “umbrella” programs – Residential and IE and Business and Public Sector. Packaging the individual program elements under these two larger umbrella programs facilitates a cohesive experience and avoids customer confusion.

The Residential and IE Program umbrella consists of 8 program elements:

- Retail/Online
- Single-Family Upgrades
- Multifamily Upgrades

- 929 ● Product Distribution
- 930 ● Behavior – Res/IE
- 931 ● New Construction – IE
- 932 ● Contractor/Midstream Rebates
- 933 ● Third-Party – IE

934 Under the Business and Public Sector Program umbrella, the Plan includes 7
935 program elements:

- 936 ● Small Business
- 937 ● Incentives
- 938 ● Targeted Systems
- 939 ● Midstream/Upstream
- 940 ● Behavior – Bus/Pub
- 941 ● New Construction – Bus/Pub
- 942 ● Assessments

943 Q. **Can you please describe the Residential and IE program elements in more detail?**

944 A. Yes. As set forth in Plan 6, ComEd will offer the following Residential and IE program
945 elements during Plan 6. IE customers are able to participate in all of ComEd’s Residential
946 and IE programs, but there are 6 program elements with funding dedicated specifically to
947 IE customers (denoted with an asterisk):

- 948 ● **Retail/Online:*** The program element offers residential customers rebates and
949 instant discounts on select ENERGY STAR® certified appliances, lighting, and
950 other home products. Purchases can be made at any retailer that sells the qualifying
951 ENERGY STAR® certified appliances, including online retailers, such as the
952 ComEd Marketplace. Within this program, a portion of the budget is dedicated to
953 IE customers by offering higher discounts at participating retailers on select
954 products in targeted geographic areas (e.g., IE census tracts), making energy saving

products more affordable for IE customers. It is ComEd's intent that, to the extent possible, it will coordinate with the Northern Illinois gas utilities to offer customers a single incentive on eligible smart thermostats through this program.

- **Single-Family Upgrades:*** This program element provides IE single-family homeowners a fully subsidized, whole-building approach to EE, ranging from energy assessments through weatherization. Funding to remedy health and safety issues is also available. Additionally, a portion of this program element will provide non-IE, single-family customers with a free energy assessment, free or discounted EE products, and a customized report identifying additional ways to save energy and money through other EE offerings or actions. The IE portion of this program element will be offered in accordance with Weatherization Principles/Requirements provisions of the Stipulation. It is ComEd's intent that, to the extent possible, it will offer this program jointly or in coordination with Nicor Gas, Peoples Gas, and North Shore Gas.
- **Multifamily Upgrades:*** The program element provides building owners, managers, and tenants of eligible multifamily buildings in the ComEd service territory with services and products, including free multifamily building energy assessments, implementation contractor and/or service provider installation of free and discounted energy-saving products in tenant spaces and common areas, incentives for larger capital projects, technical assistance to support implementation, and, as needed, resolution of health and safety issues. The IE portion of this program element will be offered in accordance with the Weatherization Principles/Requirements provisions of the Stipulation. It is ComEd's intent that, to the extent possible, it will offer this program jointly or in coordination with Nicor Gas, Peoples Gas, and North Shore Gas.
- **Product Distribution:*** This program element distributes free energy-saving products and kits via local community channels including, but not limited to, participating local schools, Community Action Agencies ("CAAs"), community-based organizations ("CBOs"), local food banks, and food pantries. The program also provides EE educational information and product installation instructions. This program targets residential customers in ComEd's service territory, including those with incomes at or below 80% of the AMI. It is ComEd's intent that, to the extent possible, it will offer a portion of this program jointly or in coordination with Nicor Gas and Peoples Gas/North Shore Gas.
- **Behavior – Res/IE:** The program element manifests as the Home Energy Reports, which is an opt-out only, behavioral-based program that provides single-family and multifamily residential customers with information on how they use energy within their households, and leverages social norms to drive customer adoption of energy efficient behaviors. Customers receive up to six paper reports a year or monthly emailed reports, which include neighbor comparison information, personalized EE tips, and information on additional ComEd EE offerings.
- **Contractor/Midstream Rebates:** This program element provides rebates or instant discounts to the purchaser when buying specified HVAC equipment and services from a participating service provider or approved distributor. Intercepting

end users and service providers at their common product purchasing channel provides a convenient and simple process for receiving incentives for higher efficiency HVAC equipment and services.

- **New Construction – IE:*** This program element offers incentives and technical assistance to building developers for new construction or major renovation of affordable housing, including single-family, low-rise, mid-rise, and high-rise multifamily buildings. Bundled energy conservation measures and custom or prescriptive approaches for specific building types are designed to result in significant energy savings over the current Illinois energy code. It is ComEd's intent that, to the extent possible, it will offer a portion of this program jointly or in coordination with Nicor Gas, Peoples Gas, and North Shore Gas.

Q. Can you please describe the Business and Public Sector program elements in more detail?

A. Yes. As set forth in Plan 6, ComEd will offer the following Business and Public Sector program elements during Plan 6. All of these elements have funding dedicated specifically to public sector customers:

- **Small Business:** This program element provides incentives for the purchase and installation of energy efficient equipment for small businesses and public facilities. The Small Business Program service providers conduct comprehensive energy assessments for small businesses and public facilities to identify cost-effective options and submit pre-applications on behalf of customers to reserve funding for projects. Service providers then install the energy-saving measure in the customer's facility.
- **Incentives:** This program element provides monetary incentives to business and public sector customers installing qualified EE improvements in their facilities. The incentive is offered on either a fixed per-unit basis ("standard") or determined based on the calculated annual energy savings ("custom"). Standard measures have savings algorithms based on the IL-TRM. Custom measures are not in the IL-TRM, and are identified and implemented based on site-specific factors.
- **Targeted Systems:** This program element provides a fully funded engineering study to help optimize operations of existing building and industrial systems and identifies low-cost and no-cost measures for systems and processes. Virtual commissioning is also available to smaller customers, in which smart meter interval usage data is used to remotely identify operational savings opportunities. ComEd will coordinate the Retro-Commissioning component of this program element with Nicor Gas, North Shore Gas, and Peoples Gas, when applicable. ComEd's Plan 6 Third-Party RFP will focus on the Targeted Systems program element, so that the third-party implementation contractor selected through the RFP solicitation process will deliver the program.

- 1038 • **Midstream/Upstream:** This program element offers instant discounts to C&I
1039 customers for opting to purchase (i) high-efficiency commercial lighting products
1040 from an approved lighting distributor, (ii) high-efficiency rooftop HVAC
1041 equipment, (iii) forklift chargers, or (iv) high-efficiency food service equipment,
1042 such as cooking equipment, refrigerators and ice-makers. The commercial food
1043 service equipment component of this program element will be offered jointly with
1044 Nicor Gas and Peoples Gas/North Shore Gas.
- 1045 • **Behavior – Bus/Pub:** This program element assists customers in identifying and
1046 implementing EE improvements in industrial facilities and commercial buildings.
1047 Under the Strategic Energy Management component, a customer joins with a cohort
1048 of 10 to 12 other customers to participate in workshops, other training, and on-site
1049 activities to adopt more energy efficient behaviors within a facility. Customers can
1050 also utilize the Building Energy Analyzer, a software tool to identify and analyze
1051 EE opportunities. ComEd will collaborate with Nicor Gas and Peoples Gas/North
1052 Shore Gas, when applicable, on this offering.
- 1053 • **Assessments:** In this program element, a facility assessment (“FA”) is conducted
1054 for Business and Public Sector customers to identify opportunities to save energy.
1055 Facility assessments are often the first step to engaging a customer on how to
1056 become more energy efficient and how to participate in the ComEd EE programs.
1057 The FA increases customer awareness, provides a source of customer leads, and
1058 identifies energy saving opportunities. Pursuant to the Stipulation, ComEd will
1059 collaborate with Peoples Gas and North Shore Gas to share public sector project
1060 leads. *See* Stipulation, ComEd Ex. 1.02.
- 1061 • **New Construction – Bus/Pub:** This program element offers technical assistance
1062 and incentive funding to building developers for construction or major renovation
1063 of C&I buildings for both private and public customers. Bundled energy
1064 conservation measures and custom or prescriptive approaches for specific building
1065 types are designed to result in significant energy savings over the current Illinois
1066 energy code. It is ComEd’s intent that, to the extent possible, it will offer a portion
1067 of this program jointly or in coordination with Nicor Gas, Peoples Gas, and North
1068 Shore Gas.

1069 The Plan (ComEd Ex. 1.01) provides detailed descriptions of the Residential and
1070 IE program elements and Business & Public Sector program elements with proposed
1071 implementation, marketing and incentive strategies, estimated savings, and budgets. In
1072 addition, a complete list of program measures can be found in ComEd Ex. 1.01, Appendix
1073 D.

1074 Q. **Are there any other programs that ComEd proposes to implement under Plan 6?**

1075 A. Yes. There is also a Multi-Segment Program, which consists only of the VO program
1076 element, which delivers energy efficiency savings to all types of customers. VO optimizes
1077 voltage at points on the electric distribution system, thereby reducing electricity
1078 consumption and peak demand by electric consumers' end use devices while also reducing
1079 utility distribution system energy losses. Section 8-103B permits ComEd to implement a
1080 VO Program and count the energy savings associated with VO towards ComEd's CPAS
1081 goals. The Plan (ComEd Ex. 1.01) provides a detailed VO program overview, with
1082 proposed implementation, marketing and incentive strategies, estimated savings, and
1083 budgets.

1084 Q. **How does ComEd propose to meet its Third-Party requirement under Plan 6?**

1085 A. Pursuant to Section 8-103B, during 2021 ComEd will develop and run an RFP solicitation
1086 for \$25 million per year average spend for third-party programs.

1087 As reflected in the Stipulation, ComEd will focus the solicitation on Retro-
1088 commissioning and Industrial Systems, under the Targeted Systems program element, as
1089 well as allocate up to \$5 million for innovative and non-duplicative approaches to IE
1090 customers ("Innovative Proposals"). See Stipulation, ComEd Ex. 1.02.

1091 In accordance with the statute, the independent consultant will score and rank the
1092 proposals submitted by potential third-party implementers and assemble the Third-Party
1093 programs portfolio. 220 ILCS 5/8-103B(g)(4)(D). As set forth in the Stipulation, a primary
1094 goal of the Innovative Proposal evaluation and selection process is to select a minimal
1095 number of Innovative Proposals (i.e., two or fewer proposals total) to minimize
1096 administrative burden and market confusion. However, the forecasted cost of each selected

1097 Innovative Proposal should be no greater than the Plan 6 ComEd average portfolio cost per
1098 kWh. ComEd also commits to consult with non-financially-interested SAG participants
1099 on solicitation and selections, but the independent consultant is not required to recommend,
1100 and ComEd is not required to select, any of the Innovative Proposals submitted in the
1101 Third-Party RFP process. The Parties agree that the Commission's approval of ComEd's
1102 Plan 6 and the Stipulation satisfies the RFP approval requirements in Section 8-103B(g)(4)
1103 of the PUA. Once the third-party implementer(s) have been selected, ComEd will submit
1104 the list of third-party implementers to the Commission for approval in a future proceeding.

1105 As this solicitation will not occur until midway through 2021, for a portion of 2022
1106 ComEd will not be incurring any costs under the Third-Party program. However, Plan 6's
1107 extension of the Plan 5 Retro-Commissioning and Industrial Systems offerings will ensure
1108 the continuation of those successful programs while the new solicitation and selection for
1109 the Plan 6 Third-Party program is underway.

1110 **Q. How does ComEd propose to meet its demand response goals under Plan 6?**

1111 A. The statute defines demand response as "measures that decrease peak demand or shift
1112 demand from peak to off-peak periods." 220 ILCS 3855/1-10. In Plan 5, ComEd satisfied
1113 the requirements of the demand response goal through the implementation of energy
1114 efficiency measures that also reduced peak demand. This allowed us to maximize the
1115 amount of energy efficiency funding for energy efficiency measures by reducing
1116 investment in an expensive stand-alone demand response program. In light of ComEd's
1117 success in Plan 5 and to maximize available funding, ComEd proposes to take the same
1118 approach for Plan 6 and plan to meet its demand response goals through its EE Residential
1119 & IE programs.

1120 Q. **Does ComEd's portfolio provide a diverse cross-section of opportunities for**
1121 **customers of all rate classes?**

1122 A. Yes. The wide array of programs described above is designed to provide all non-Exempt
1123 customers – residential, IE, business, and public sector – with the opportunity to participate
1124 in, and benefit from, EE programs.

1125 Q. **How does ComEd propose to implement the programs in its portfolio?**

1126 A. Similar to previously-approved ComEd EE plans, factors such as whether the program
1127 element is new or existing, tied to another program element, or jointly offered with a gas
1128 company, all come into play when determining an appropriate implementation strategy.

1129 Q. **Can you describe the program implementation process in more detail?**

1130 A. Yes. The Plan provides implementation information for each Plan 6 program element
1131 (ComEd Ex. 1.01). Each program will have an implementation contractor, with whom
1132 ComEd will work to develop the program's final, more detailed program design and
1133 implementation plan. This strategy has worked well in the past because it allows ComEd
1134 to use the implementation contractor's experience and expertise to complete the program
1135 design. Together with the implementation contractor, ComEd will finalize the program's
1136 structure, incentive levels, and marketing and recruitment strategies to maximize the
1137 success of achieving the program goals. ComEd and the implementation contractor will
1138 develop a detailed roadmap for program roll-out and management, including customer
1139 qualification, incentive fulfillment, customer care, data capture and tracking, reporting, and
1140 quality control processes.

B. Portfolio-Level Activities

Q. Does ComEd's Plan 6 include portfolio-level activities?

A. Yes. Besides the EE and demand response program elements, ComEd has other cross-cutting activities that are not program specific, but rather impact the entire portfolio. These activities include R&D, the market development initiative, evaluation, education and awareness, and portfolio administration. Pursuant to the Stipulation, ComEd will limit its portfolio-level costs, excluding IE R&D, to an annual average of no more than \$37 million each year of the 2022-2025 Plan. ComEd Ex. 1.02.

Q. What types of activities are performed under the R&D allocation?

A. R&D activities include research, demonstration projects, and pilots and can be divided into the following three major categories: (i) emerging opportunities, (ii) market transformation, and (iii) memberships to leading EE organizations. ComEd believes that the investment in new EE concepts is critical to the future success of its EE portfolio. The EE landscape has changed dramatically in the last decade. Many EE measures have reached saturation in the marketplace or no longer pass the required cost-effectiveness tests. In addition, more efficient appliance standards and building codes have been adopted, which reduces measure savings potential. The result is that we will need to find new cost-effective, long-lived measures to help meet our energy savings goals. *See* ComEd Ex. 1.01. In the Stipulation, ComEd has committed to include in its Plan 6 R&D work several focus areas:

- **IE R&D:** During the Plan 6 Period, ComEd will prioritize its IE R&D spending on initiatives focused on assessment and/or delivery of comprehensive measures.
- **Triple-Glazed Windows:** During the Plan 6 Period, ComEd will collaborate with NRDC and other interested stakeholders, through the SAG Market Transformation

Savings Working Group, to review the potential for and merits of a statewide and/or multi-state regional triple-glazed window market transformation pilot.

- **Energy Performance Standards for Existing Buildings:** During the Plan 6 Period, ComEd will launch a market transformation initiative to promote the adoption of efficiency performance standards for existing buildings in one or more municipalities in its service territory. ComEd will work with NRDC and other interested SAG participants in the design of the initiative.

Q. Does ComEd's Plan 6 include proposals to implement new building and appliance standards that have been placed into effect?

A. Yes. The Illinois utilities and Illinois stakeholders will analyze the opportunity to save energy in new building construction through designing and offering stretch codes at the municipal level in Plan 6. ComEd expects that this statewide approach will be funded in Plan 6 through R&D – Market Transformation.

Q. What is the new Market Development Initiative included in Plan 6?

A. As memorialized in the Stipulation, Plan 6 includes a new MDI. Supporting diverse market development has long been a priority for ComEd, and ComEd appreciates the opportunity to work with stakeholders on the MDI. To further expand the inclusivity and diversity of ComEd's EE portfolio, ComEd is dedicating \$4 million per year average to the MDI during the Plan Period.

The Plan 6 MDI was developed in collaboration with the Parties, and is designed to increase contracting opportunities for diverse business enterprises and CBOs and assist them in developing the necessary capabilities to participate in the delivery of the EE Portfolio; and improve the diversity and inclusiveness of the ComEd EE Department's supplier and supplier workforce.

The MDI is specifically designed to (1) increase contracting opportunities for diverse business enterprises and CBOs and assist them in developing the necessary

1191 capabilities to participate in the delivery of the EE Portfolio; and (2) improve the diversity
1192 and inclusiveness of the ComEd EE Department's supplier and supplier workforce. The
1193 details of the MDI will be informed by research performed in 2021. ComEd will consult
1194 with the SAG on this research, including vendor and scope, as well as the subsequent MDI
1195 implementation plan.

1196 Additional details about the MDI, including MDI implementation, evaluation and
1197 reporting, are provided in the Stipulation. *See* Ex. ComEd 1.02.

1198 **Q. What types of activities are performed under the Evaluation allocation?**

1199 A. Evaluation activity relates to retaining and compensating the work of an independent
1200 evaluator to conduct the required independent evaluation function for the portfolio. More
1201 details can be found in Section VII of my testimony and in the Plan, ComEd Ex. 1.01.

1202 **Q. What types of activities are performed under the Education & Awareness allocation?**

1203 A. Education and Awareness activities include non-program specific marketing efforts
1204 designed to promote EE in general and increase customer awareness of ComEd's EE
1205 portfolio. *See* ComEd Ex. 1.01.

1206 **Q. What types of activities are performed under the Portfolio Administration allocation?**

1207 A. Portfolio Administration activities generally include the following: internal non-program
1208 ComEd labor, tracking and reporting systems, EE Call Center, legal services, IL-TRM and
1209 SAG contracts, and other general portfolio activities. Regarding the reporting activities,
1210 as reflected in the Stipulation, beginning in 2022, ComEd will significantly expand its
1211 reporting metrics, including but not limited to: IE Multifamily, health and safety,
1212 equity/affordability, and supplier diversity. This will largely be done through the

established ICC-filed Quarterly and Annual Reports, detailed in the Policy Manual. To ensure accuracy and efficiency in its reporting, ComEd will need to incorporate these metrics into its existing tracking and reporting system, which will require significant work in 2021. ComEd agrees to support the inclusion of additional reporting metrics or topics in an updated version of the Policy Manual, to be discussed through the SAG. See Stipulation, ComEd Ex. 1.02.

C. Budgets and Goals

Q. Is ComEd's proposed portfolio of EE measures designed to achieve the proposed EE and demand response goals within the budgets?

A. Yes. Table 7 below shows the estimated budget allocations, by program, by year, within the annual budget of \$376,429,489.

Table 7. Plan 6 Budgets, by Program and Year

Programs	2022 Budgets	2023 Budgets	2024 Budgets	2025 Budgets	4-Year Plan Budgets
Residential & IE Programs					
Retail/Online	\$38,086,239	\$38,977,287	\$37,864,568	\$38,903,104	\$153,831,198
Single-Family Upgrades	\$29,616,494	\$30,650,353	\$26,920,834	\$24,562,292	\$111,749,974
Multifamily Upgrades	\$26,214,329	\$29,479,215	\$30,871,468	\$30,609,217	\$117,174,230
Product Distribution	\$13,869,670	\$13,943,741	\$13,990,029	\$14,133,273	\$55,936,712
Behavior – Res/IE	\$5,471,295	\$5,571,295	\$5,571,295	\$5,571,295	\$22,185,180
New Construction – IE	\$3,035,045	\$3,039,441	\$3,329,465	\$3,473,477	\$12,877,428
Contractor/Midstream Rebates	\$3,236,998	\$3,453,256	\$3,646,514	\$3,836,772	\$14,173,540
Third Party – IE	\$1,600,000	\$1,800,000	\$2,300,000	\$2,300,000	\$8,000,000
Sector General – Res/IE	\$2,175,000	\$1,675,000	\$1,675,000	\$1,675,000	\$7,200,000
RES/IE TOTAL	\$123,305,070	\$128,589,588	\$126,169,174	\$125,064,430	\$503,128,262
Business & Public Sector Programs					

Programs	2022 Budgets	2023 Budgets	2024 Budgets	2025 Budgets	4-Year Plan Budgets
Small Business	\$76,316,640	\$85,123,694	\$84,278,119	\$85,607,517	\$331,325,970
Incentives	\$74,410,254	\$61,592,815	\$65,942,108	\$66,898,619	\$268,843,796
Targeted Systems	\$24,752,649	\$25,790,472	\$26,371,291	\$27,595,745	\$104,510,157
Midstream/Upstream	\$13,835,002	\$13,282,835	\$12,889,336	\$12,562,569	\$52,569,741
Behavior – Bus/Pun	\$6,275,942	\$6,275,942	\$6,275,942	\$6,275,942	\$25,103,770
New Construction – Bus/Pub	\$5,914,935	\$5,557,657	\$4,851,635	\$4,952,154	\$21,276,381
Assessments	\$3,018,499	\$3,018,499	\$3,018,499	\$3,018,499	\$12,073,997
Sector General – Bus/Pub	\$8,117,822	\$7,110,403	\$7,652,242	\$8,248,265	\$31,128,732
BUS/PUB TOTAL	\$212,641,743	\$207,752,319	\$211,279,173	\$215,159,310	\$846,832,545
Portfolio-Level Costs					
Evaluation	\$9,500,000	\$9,500,000	\$8,500,000	\$8,500,000	\$36,000,000
Research & Development	\$11,800,000	\$11,400,000	\$11,300,000	\$9,500,000	\$44,000,000
Market Development Initiative	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$16,000,000
Portfolio Administration	\$13,200,000	\$13,200,000	\$13,200,000	\$13,200,000	\$52,800,000
Education & Awareness	\$2,000,000	\$2,000,000	\$2,000,000	\$1,000,000	\$7,000,000
PORTFOLIO- LEVEL COSTS TOTAL	\$40,500,000	\$40,100,000	\$39,000,000	\$36,200,000	\$155,800,000
PORTFOLIO TOTAL	\$376,446,813	\$376,441,907	\$376,448,347	\$376,423,740	\$1,505,760,807

1226 Table 8 shows the projected CPAS energy savings by program, by year.

1227 **Table 8. Projected CPAS Savings, by Program and Year**

Programs	2022 CPAS Contribution* (MWh)	2023 CPAS Contribution* (MWh)	2024 CPAS Contribution* (MWh)	2025 CPAS Contribution* (MWh)	4-Year CPAS Energy Savings (MWh)
Residential & IE Programs					
Retail/Online	197,380	411,269	630,224	842,136	842,136
Single-Family Upgrades	39,263	77,713	111,146	141,184	369,307
Multifamily Upgrades	35,130	73,504	110,139	145,411	364,184
Product Distribution	127,659	262,732	403,392	543,339	1,337,122
Behavior – Res/IE	108,900	213,542	253,037	272,743	848,222
New Construction – Res/IE	2,808	5,536	8,386	11,341	28,071
Contractor/Midstream Rebates	13,355	28,493	45,352	63,950	151,150
Third Party – IE	4,134	8,786	14,729	20,672	48,320
RES/IE TOTAL	528,629	1,081,575	1,576,406	2,040,776	2,040,776
Business & Public Sector Programs					
Small Business	224,449	451,231	677,384	896,978	896,978
Incentives	238,625	467,582	716,344	968,137	968,137
Targeted Systems	95,496	194,009	296,112	396,126	396,126
Midstream/Upstream	176,522	355,542	534,509	699,688	699,688
Behavior – Bus/Pub	36,395	72,791	109,186	145,582	145,582
New Construction – Bus/Pub	14,853	30,071	43,593	57,960	57,960
Assessments	3,364	6,728	10,091	12,722	12,722
BUS/PUB TOTAL	789,704	1,577,953	2,387,219	3,177,193	3,177,193
Multi-Segment & Portfolio-Level Activities					
Voltage Optimization	165,366	330,435	554,467	817,979	817,979
Research & Development	14,002	29,061	45,654	64,753	64,753
ComEd EE Portfolio					
PORTFOLIO TOTAL	1,497,701	3,019,024	4,563,746	6,100,701	6,100,701

1228 *Plan 6 CPAS contribution does not account for expiring savings from previous years.

Table 9 shows the projected peak demand reductions expected from the Residential and IE programs.

Table 9. Projected Plan 6 Peak Demand Reductions

Program	2022	2023	2024	2025	4-Year
	Net MW	Net MW	Net MW	Net MW	Total Net MW
Residential & IE Programs					
Retail/Online	27.1	26.3	24.8	24.3	102.5
Single-Family Upgrades	5.2	5.1	4.6	4.2	19.1
Multifamily Upgrades	3.8	4.0	3.8	3.5	15.1
Product Distribution	13.4	13.3	13.1	13.1	53.0
Behavior – Res/IE	18.8	22.2	14.9	13.1	69.0
New Construction – Res/IE	0.3	0.3	0.3	0.4	1.4
Contractor/Midstream Rebates	1.4	1.5	1.7	1.8	6.4
Third Party – IE	0.6	0.7	0.9	0.9	3.0
RES/IE TOTAL	70.7	73.4	64.2	61.3	269.5

Table 10 combines the estimated CPAS savings from Table 8 above, with the legacy savings, to show that ComEd's Plan 6 is projected to meet the CPAS goals each year. It also shows how the demand response savings from Table 9 above are projected to meet the demand response goals each year.

Table 10. Plan 6 CPAS and DR Goals and Projected Savings

Savings	2022	2023	2024	2025
Statutory CPAS Goal - MWh	10,205,451	11,218,205	12,230,960	13,243,715
Projected Portfolio CPAS - MWh	10,462,038	11,554,141	12,575,530	13,588,890
Percent of CPAS Goal	103%	103%	103%	103%
CPAS Surplus (Shortfall) - MWh	256,588	335,936	344,570	345,176
Statutory DR Goal - MW	7.17	7.44	7.42	7.43
Projected Portfolio Peak Demand Savings - MW	70.7	73.4	64.2	61.3
Percent of DR Goal	986%	987%	865%	825%
DR Surplus (Shortfall) - MW	63.53	65.96	56.78	53.87

D. Cost Effectiveness and Weighted Average Measure Life (“WAML”)

Q. Is the proposed Plan 6 Portfolio expected to be cost effective?

A. Yes. Using the TRC test described earlier in my testimony and in the Plan, Table 11 shows the results of the program and program element cost-effectiveness analysis (including Sector General costs), and Table 12 shows the results of the portfolio cost-effectiveness analysis (including Portfolio-Level costs). Excluding the IE program elements, the Plan 6 portfolio is expected to be cost effective, with a forecasted TRC of 2.02 on average over the 4-year period, or 3.24 including the NEIs. Moreover, if the IE program elements are included, the Plan 6 Portfolio is expected to be cost-effective, with a forecasted TRC of 1.83 on average over the 4-year period, or 2.89 including the NEIs.

1247

Table 11. Projected TRCs, by Program and Year

Programs	TRC			
	2022	2023	2024	2025
Residential & IE Programs				
Retail/Online	4.03	3.91	3.95	3.86
Single-Family Upgrades	0.67	0.66	0.69	0.71
Multifamily Upgrades	0.77	0.79	0.81	0.86
Product Distribution	5.58	5.62	5.73	5.77
Behavior – Res/IE	13.40	15.98	11.04	9.98
New Construction – IE	1.09	1.04	1.07	1.09
Contractor/Midstream Rebates	1.89	2.06	2.22	2.38
Third Party – IE	1.27	1.30	1.34	1.38
RES/IE	2.71	2.76	2.66	2.71
Business & Public Sector Programs				
Small Business	4.11	4.07	4.09	4.00
Incentives	2.62	3.18	3.23	3.34
Targeted Systems	2.41	2.50	2.59	2.72
Midstream/Upstream	7.73	7.65	7.56	7.42
Behavior – Bus/Pub	1.40	1.46	1.52	1.58
New Construction – Bus/Pub	1.74	1.66	1.46	1.50
Assessments	0.26	0.27	0.28	0.29
BUS/PUB	3.26	3.51	3.48	3.48
Multi-Segment and Portfolio-Level Activities				
Voltage Optimization	2.52	2.44	2.51	2.47
PROGRAMS TOTAL	2.70	2.79	2.77	2.79

Table 12. Plan 6 Cost-Effectiveness Test Results

Total Portfolio	CE Results Excluding NEIs	CE Results Including NEIs
TRC	1.83	2.89
PACT/UCT	1.86	
TRC - Excluding IE	2.02	3.24
PACT/UCT- Excluding IE	2.06	

More detailed projected cost-effectiveness results, including TRC ratios and net benefit values, with and without NEIs, for each program element, can be found in ComEd Ex. 1.01, Appendix C (Supplemental TRC Results).

Q. Has ComEd performed a TRC analysis for programs that it will jointly offer with gas utilities?

A. Not yet. As noted earlier in my testimony, at the time of this filing, ComEd is continuing to work with the gas utilities to determine the cost sharing agreements for Plan 6 joint/coordinated programs launching in 2022. Once ComEd has received the necessary information from the gas utilities about such joint and coordinated programs, ComEd will timely file joint TRC and PACT results for all joint programs in this Plan 6 docket.

Q. What are the projected WAML by year, for Plan 6?

A. Table 5-6 (Projected Plan 6 Program Measure Life) in the Plan provides the projected Plan 6 WAML for each program element, by year. *See* ComEd Ex. 1.01 at Table 5-6; *see also* ComEd Ex. 1.04 (provides a detailed explanation of WAML calculations, using 2022 as an example). The projected WAML portfolio values, by year, are 11.6, 11.5, 11.6 and 11.6 in 2022, 2023, 2024 and 2025, respectfully. *See* ComEd Ex. 1.01 at Table 5-6.

The projected WAML for each program element is based on the Plan's projected measure mix within each program element and the Plan's projected energy savings, using

the data available at the time of the Plan's development and filing. From that data, ComEd calculated the projected WAML for each year of the Plan Period, as well as the projected overall portfolio measure life of 11.6 years. The projected Plan 6 WAML values will be used as a proxy in ComEd's annual EE formula rate update proceedings ("EE FRU"). After the independent evaluator calculates the final WAML based on actual implemented measures and associated savings during its annual evaluation, it will be presented to the Commission for approval in the revenue requirement reconciliation portion of the relevant EE FRU.

VII. EVALUATION

Q. What are the purposes of the evaluation process?

A. The evaluation process serves several purposes. First, at its core, this process determines the actual annualized savings achieved by a program element, known generally as an impact evaluation. This includes identifying the savings of fuels other than electricity, which can be converted to electric savings on an equivalent British Thermal Unit ("BTU") basis, as defined by Section 8-103B. Second, by combining actual savings data with actual program cost data, the evaluation process calculates the cost effectiveness of a program element. Third, the evaluation process develops estimates of key program planning variables such as per unit measure energy savings and demand reductions and NTG ratios. Fourth, the evaluation process can provide a vital early-warning system to ComEd if the evaluation can be conducted in a timely manner. By providing timely information on actual savings, ComEd can potentially address critical shortfalls while time remains in the implementation cycle. Fifth, process evaluations can also be periodically conducted, to

1289 examine the process of program implementation. These can be particularly useful in
1290 refining and improving program design and delivery of programs that are underperforming.

1291 **Q. Who conducts the evaluation work?**

1292 A. Similar to its previous Plans and as outlined by statute, ComEd intends to contract with an
1293 independent evaluation contractor to perform this function. This contractor will complete
1294 an assessment independent of ComEd, implementation contractors, and stakeholders.
1295 Consistent with previous Plans and the Policy Manual, ComEd proposes to enter into a
1296 contract with the evaluation contractor, and the contract will provide that the Commission
1297 has the right to: (i) approve or reject the contract, (ii) direct ComEd to terminate the
1298 evaluator if the Commission determines that the evaluator is unable or unwilling to provide
1299 an independent evaluation, and (iii) approve any action by the utility that would result in
1300 termination of the evaluator during the term of the contract. The contract will also reflect
1301 expectations that the Parties to the Stipulation have regarding the independent evaluator's
1302 roles and responsibilities as a non-party participant in the EE FRU proceedings related to
1303 the Plan Period. See Stipulation, ComEd Ex. 1.02.

1304 **Q. How has the evaluation process worked to date during the prior Plans?**

1305 A. ComEd believes that the evaluation process has worked very well. ComEd has coordinated
1306 with Staff to retain an independent evaluation contractor for ComEd's entire portfolio.
1307 Although ComEd managed the evaluation contractor, the ICC still maintains oversight
1308 authority of the evaluation. Additionally, Staff is invited to participate in all interactions
1309 ComEd has with the evaluation contractor. The current process has been successful, and
1310 ComEd proposes the continuance of this process.

1311 Q. **What impact have the IL-TRM and Policy Manual had on evaluation?**

1312 A. The approval of these manuals, including the adoption of the NTG Framework, has given
1313 the evaluation process much more structure, transparency, and predictability over time.
1314 Many of the evaluation issues that were contested in previous plans have been resolved by
1315 these manuals, and often in ways that promote consistent application across the State.
1316 Indeed, each of these initiatives is a prime example of work conducted in the SAG that has
1317 led to much more structure across the evaluation process. Section 8-103B is clear that the
1318 “independent evaluator shall follow the guidelines and use the savings set forth in
1319 Commission-approved EE policy manuals and technical reference manuals.” 220 ILCS
1320 5/8-103B(j).

1321 Additionally, under Section 8-103B, the independent evaluator is directed to use
1322 the same measure lives for EE measures installed in income-eligible households as are used
1323 in non-income-eligible households until the time that measure lives specific to income-
1324 eligible household measures are determined. *Id.*

1325 Q. **What dollars are allocated for the evaluation function and how are they allocated**
1326 **across the portfolio?**

1327 A. The statute sets the evaluation budget at no more than 3% of the total annual budget. 220
1328 ILCS 5/8-103B(g)(6). Over the next four Plan years, ComEd has allocated approximately
1329 \$9 million per year, which is 2% of the total annual budget. See ComEd Ex. 1.01. ComEd,
1330 along with Staff, plans to work with the independent evaluator to determine how best to
1331 allocate the dollars across the program elements. Each program element has its own unique
1332 evaluation needs and, because ComEd will now be starting the fourteenth year of
1333 implementation for some programs, it may not need to allocate as many dollars for

1334 established programs. For example, if the evaluation contractor expects a kWh savings
1335 number for a specific measure to remain constant for the next two years, this measurement
1336 may not be required as part of that calendar year's evaluation. The evaluation budget
1337 dollars for that measurement could then be allocated more appropriately towards a "less
1338 certain" measurement. In this way, ComEd plans to work with the independent evaluator
1339 to ensure the evaluation plan makes the best use of the available funding.

1340 **Q. How are non-electric savings counted through the evaluation process?**

1341 **A.** As noted earlier in my testimony, the electric utilities subject to Section 8-103B may count
1342 savings of fuels other than electricity, which shall be converted to electric savings on an
1343 equivalent BTU basis for the premises, and may recover the costs of offering the gas EE
1344 measures, as defined by Section 8-103B(b-25). The electric utility must prioritize
1345 programs for low-income residential customers to the extent applicable and practicable.
1346 Section 8-103B(b-25) also states, "In no event shall more than 10% of each year's AAIG
1347 as defined in paragraph (7) of subsection (g) of this Section be met through savings of fuels
1348 other than electricity." *See* 220 ILCS 5/8-103B(b-25).

1349 The statute enables ComEd to convert the fuel savings to equivalent electric savings
1350 on an equivalent BTU basis at the premises. Per Section 11.3 of the Policy Manual, the
1351 conversion of fossil fuel savings to electric savings shall be based on site energy use, as set
1352 forth in the Table 13. For example, a therm of natural gas savings shall be converted to
1353 kWh savings based on the amount of energy a kWh provides a home or business – i.e.,
1354 3412 BTUs. Thus, as shown in the table below, a therm of natural gas savings
1355 (approximately 100,000 BTUs) is equal to 29.3 kWh savings.

Table 13. Fuel Conversion Table

Fuel	Energy Units	BTUs per Energy Unit	Site kWh Equivalents per Energy Unit
Electricity	kWh	3,412	1.0
Natural Gas	therms	100,000	29.3
Propane	gallons	91,333	26.8
F		138,500	40.6

At the end of each year, the independent evaluator includes in its annual evaluation an accounting of the therms that will be counted toward the 10% AAIG limit. If there are gas savings funded with electric customer funds that, when converted, exceed 10% of the AAIG, then all gas conversions for IE programs must be used first, up to the full amount of gas conversion savings available from IE programs, or the full 10% of the AAIG limit, whichever is less. Gas conversions for non-IE programs can only be counted towards ComEd's performance goal after all of the IE gas conversions are made. Per the Stipulation, if the IE programs do not provide the full 10% goal allocation, ComEd has the discretion to choose the therms for conversion that best serve the long-term impact of the portfolio (e.g., longer life measures). Note that while therms are emphasized here, other non-electricity fuels (e.g., propane) may also be converted, as permitted by Section 8-103B.

From 2018 through 2020, the non-electricity energy savings acquired by the ComEd portfolio exceeded the 10% statutory limit. ComEd expects this trend to continue during the Plan 6 Period. Table 14 provides a projection of which programs ComEd expects to convert therms from in Plan 6.

1374

Table 14. Projected Converted Therms for Select Programs

Program	2022	2023	2024	2025
	Converted Therms	Converted Therms	Converted Therms	Converted Therms
Res/IE Programs				
Retail/Online	32,350	37,722	37,341	37,530
Single-Family Upgrades	10,472	10,846	9,115	7,671
Multifamily Upgrades	9,768	10,684	10,727	10,410
Product Distribution	21,203	21,203	21,203	21,203
Behavior - Res	0	0	0	0
Third-party - IE	0	0	0	0
Contractor/Midstream Rebates	8,456	9,521	10,585	11,649
New Construction - Res/IE	0	0	0	0
Bus/Pub Programs				
Small Business	1,128	1,218	1,288	1,360
Incentives	5,280	5,681	6,614	7,048
Targeted Systems	0	0	0	0
Midstream/ Upstream	0	0	0	0
Behavior – Bus	0	0	0	0
New Construction - Bus/Pub	14	16	17	18
Assessments	0	0	0	0
Sector Level - EE Programs				
Voltage Optimization	0	0	0	0
Research and Development - EE Programs				
Research and Development	4,385	4,385	4,385	4,385
Total Portfolio	93,056	101,275	101,275	101,275

1375 Q. Are there any particular Stipulation provisions regarding evaluation?

1376 A. Yes. As reflected in the Stipulation, ComEd Ex. 1.02, the Parties have agreed that they
 1377 will engage in good faith efforts at SAG to identify policy mechanisms that could support
 1378 enhanced investment in both (1) targeting of EE programs and services to economically
 1379 challenged, historically under-served and diverse communities; and (2) the diversification
 1380 of contractors and trade allies delivering EE programs and services. Such policy
 1381 mechanisms may include, but would not be limited to, the potential to adopt higher net-to-

gross assumptions for targeted communities than currently used for programs as a whole (territory-wide).

VIII. RISKS & RISK MANAGEMENT

Q. What activities does ComEd propose to undertake during the Plan 6 Period to address portfolio risk?

A. First, at the portfolio level, ComEd will continue to reassess its mix of programs and timing to ensure it remains on track to achieve the proposed energy savings goals within the applicable budgets.

Second, to address risk going forward, ComEd also must retain flexibility to adjust portfolio and program design based on the real-time information it receives. ComEd requires the ability to modify programs during the 4-year Plan Period as results are realized. On-going program modifications are a key to a well-designed portfolio – as information is received and analyzed, program designs will be modified accordingly. This will be critical if the proposed energy savings goals are to be achieved. For example, it is possible that a measure may lose its cost effectiveness over time or participation rates for a certain measure turn out lower than expected. It is impossible to foresee every contingency that might arise in the future. To ensure that ComEd has the ability to respond to such challenges following approval of Plan 6, it must retain sufficient flexibility to reallocate funds across program elements, including the ability to modify, discontinue, and add program elements within approved programs based on subsequent market research and

1402 actual implementation experience. The Policy Manual outlines the parameters regarding
1403 the exercise of this flexibility.⁹

1404 Third, ComEd will continue to meet and work with other Illinois stakeholders
1405 through the SAG. ComEd firmly believes that the SAG process has provided an excellent
1406 opportunity and forum for a variety of stakeholders to work together to ensure EE is
1407 maximized in Illinois. ComEd is committed to continued engagement with the
1408 stakeholders to provide opportunities to review ComEd's progress towards maximizing
1409 energy savings in Illinois through the Plan.

1410 Finally, several potential changes to federal and state law could impact ComEd's
1411 Plan 6 execution and subsequent savings (e.g., federal lighting standards, federal stimulus
1412 bill, state energy legislation). ComEd cannot now reasonably plan for or mitigate these (or
1413 other) scenarios given that their likelihood of becoming law (and any details of their final
1414 enacted provisions) is entirely unknown at this time. As such, the Parties to the Stipulation
1415 have agreed that, to the extent there are changes in applicable law that materially impact
1416 the implementation of ComEd's Plan 6 or provisions of this Stipulation, the Parties will
1417 work collaboratively with ComEd to discuss impacts and, if needed, reach consensus on
1418 adjustments or other measures in responses to material changes in law.

1419 **IX. RECOVERY OF ENERGY EFFICIENCY COSTS**

1420 **Q. How does ComEd propose to recover its Plan 6 EE costs?**

1421 **A.** Costs related to Plan 6 EE and demand response programs, with the exception of VO as
1422 noted earlier, will be recovered through ComEd's EE formula rate, Rider EEPP, which was

⁹ Policy Manual at Section 6.1.

1423 approved by the Commission in ICC Docket No. 17-0287 and is currently in effect.

1424 ComEd is not proposing any changes to the Rider as part of the Plan 6 filing.

1425 Relatedly, the Commission previously approved Rider Energy Efficiency
1426 Performance Adjustment (“Rider EEPA”) in Docket No. 17-0312, which calculates and
1427 applies the performance adjustments associated with ComEd’s achievement of the
1428 applicable AAIGs. Like Rider EEPP, ComEd not proposing any changes to Rider EEPA
1429 as part of the Plan 6 filing.

1430 **X. CONCLUSION**

1431 **Q. Does this conclude your testimony?**

1432 **A. Yes.**